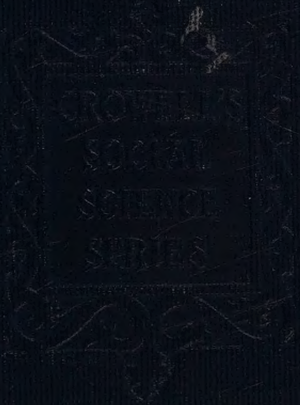

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Edited by
SEBA ELDRIDGE
DEPARTMENT OF SOCIOLOGY
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To My Parents

C. M. Y. and E. C. Y.

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EDITOR'S NOTE

This book is a systematic exposition of the farmer's economic problems and of the economic factors in rural social life. The discussion is clear, simple, readable, to an unusual degree. It should prove quite effective as text material for college courses in agricultural economics. The general reader will find it a serviceable introductory statement of the farmer's problems and of the measures applied or advocated as solutions.

S. E.

PREFACE

Agricultural economics has had a rapid development in the United States in the last fifteen years. This book is offered as an introduction to the subject for beginning students and others interested in the economic problems of agriculture in the United States. Recalling Pearson's three stages in the development of a science—the ideational, the observational, and the metrical—the agricultural economists in the United States would agree that their new science is still largely in the first two stages, with some promising beginnings in the third stage. Those working in the field of agricultural economics are very appreciative of the splendid research work being done by the Bureau of Agricultural Economics, of the United States Department of Agriculture, and by the departments of agricultural economics of the land-grant colleges and universities and of other institutions. We shall soon have enough carefully collected data to make a fairly accurate analysis of the various economic aspects of agriculture in the United States.

This book has grown out of the writer's experience in teaching the introductory course in agricultural economics in three land-grant colleges. It has been the writer's experience that the students taking the course, students from the college of agriculture for the most part, have had little or no training in general economics, and are scarcely familiar with the most elementary concepts in economics. Therefore a special effort has been made to make clear these elementary concepts of economics. Controversial points and theories have been avoided. The writer believes that more will be gained by beginning students in agricultural economics in having them master a few fundamental principles of economics and get a clear picture of the economic organization of our agriculture, than in spending a great deal of time in threshing over theoretical, controversial points.

Like all writers of textbooks covering a general field the writer would have to make many acknowledgments if all sources of information and ideas were properly credited. Special acknowledgment is made of the instruction received by the writer from several of his teachers in agricultural economics, particularly Dr. H. C. Taylor, Dr. B. H. Hibbard, Dr. Theodore Macklin, Dr. George H. Wehrwein, and Professor E. C. Branson. Also the special help received from Dr. H. C. Taylor's *Outlines of Agricultural Economics,* Dr. L. C. Gray's *Introduction to Agricultural Economics,* and the various bulletins and monographs prepared by the staff of the Bureau of Agricultural Economics must be mentioned. While the writer assumes full responsibility for everything that appears in the text, he is especially indebted to his colleague, Dr. E. F. Dummeier, to Dr. B. H. Hibbard, and to Dr. Seba Eldridge, editor of the Crowell Social Science Series, who read the manuscript and made valuable criticisms and suggestions.

The writer invites criticisms and suggestions from any teachers or readers on any points in the book.

FRED ROY YODER.

Pullman, Washington,
January, 1929.

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AGRICULTURAL ECONOMICS

CHAPTER I

DEVELOPMENT OF AMERICAN AGRICULTURE AND AGRICULTURAL ECONOMICS

A. Beginnings of American Agriculture

The European Heritage. American agriculture began as an extension of European agriculture to the American wilderness. Most of the early settlers from northwestern Europe were farmers. Agriculture was still the chief industry in Europe when the earliest immigrants began to come to America. The strongest motive prompting many of the immigrants to migrate was to get possession of farms. Good farming land had become scarce in Europe. Most of the land was held by big landlords. Tenants often suffered various kinds of restrictions in renting and cultivating the land. Stories told in the European countries of great stretches of free or cheap land in America made many people eager to leave the crowded agricultural communities in northwestern Europe and seek better farming opportunities in America. Land hunger brought many of the earliest immigrants to America.

Along the Atlantic seaboard the settlers found a climate very similar to the European climate. They found a fertile soil in most places, adapted to the growing of many kinds of agricultural products. The great distance from the European food supply compelled them to give first attention to agriculture. The settlers at once began to try out the European systems of agriculture on American soil. They transplanted to the American wilderness almost the complete stock of European agriculture, including the important plants, wheat, barley, rye, oats, buckwheat, beans, peas, turnips, and various garden vegetables; the common domestic animals, the horse, the cow, the sheep, the hog, the goat, and fowls; farm implements and tools, the cart, the plow, the harrow, the hoe, the spade, the sickle, the flail, the mortar, and the ax; and the chief methods of cultivation and crop rotation. Much experimentation was required to adapt the European systems of agriculture to American conditions. But it was soon found that most of the European plants and all the animals did well on American soil.

Attempts were likewise made to transplant European customs of landholding to America. Land tenure systems in Europe at that time still retained some of the elements of feudalism. The theory was that land in America belonged to the crown. Whether granted to individuals, commercial companies, or groups of colonists, it was to be held as a fief. The Lords Proprietors who had received the Carolinas as a grant, had John Locke, the great philosopher, draw up a system of government based on land tenure classes, called the Grand Model, which they proposed to have established in the Carolinas. This system provided for the division of the land into provinces, seignories, baronies, and large estates, with overlords, lords, landgraves, freemen, yeomen, and serfs. These different classes were to hold, control, oversee, and work the land according to allotted position. This was almost an exact duplication of the feudal land tenure system of Europe. Because of free land and scarce labor it failed in the Carolinas, but it shows how an attempt was made to transplant the European land systems to America.

More successful was the attempt to imitate the big English landed estate of the country gentleman in the South. The southern plantation, with its gentleman owner, and its overseers, tenants, and slaves was modeled after the big English estate. The New England land system was modeled after the free yeoman country village system of Europe. Each member of a colony was given a village house lot, ten acres of arable land, and the right to make hay in the common meadows and to pasture his stock on the common range. These European methods of land tenure were considerably modified as American agriculture developed.

Indian Contributions. The early settlers got much from the Indians in the way of agriculture.[1] The Indians of the eastern half of the United States had a fairly well developed agriculture. We have attributed too much of the livelihood of these eastern Indians to hunting and fishing. These were only a part of their means of making a living. All the eastern Indians carried on some kind of agriculture. They usually cultivated only small patches about their villages. Hoe methods of cultivation were used. Women did most of the work in preparing the soil and cultivating the crops. The chief crop of the eastern Indians was maize, or corn. This was their great staple crop. It was raised all over the eastern half of the United

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[1] For description of the agriculture of the American Indians see Wissler, *The American Indian,* Ch. I.

States. In the northern part, beans and squashes were grown in the same patches with the corn. In the southern part, corn was supplemented by millet, melons, gourds, and sweet potatoes. In the north the Indians had well-developed methods of obtaining sugar from the maple. In the south oil was made from various kinds of nuts. Tobacco was grown and used all over the eastern area.

The early settlers, coming into contact with the Indians, took up the agricultural practices of the Indians. They often depended on the Indians for a part of their food supply. Corn became one of the staple foods of the pioneer. Indeed corn became the pioneer's chief aid in conquering the American wilderness. It was good for man and beast. It was hardy and produced a heavy yield with little cultivation and preparation of the soil. The Indians taught the settlers how to "ring" the trees, and kill and burn them, and how to plant and grow the corn among the dead trees and the stumps. The pioneer trappers in the hill section of the South used to plant their corn in the spring and then leave with their packs of furs for the northern markets and return in the fall to find their corn ready for harvest. Corn ripened in ninety days from planting and could be used in the green stage four weeks earlier. The Indians taught the settlers how to prepare a dish known as *succotash,* by cooking green corn and beans together. Corn was decidedly the greatest contribution made by the Indians to American agriculture. In adjusting themselves to the American wilderness, the early settlers adopted whatever agricultural practices of the Indians they found helpful.

Pioneer Farmer Was Self-sufficient. The pioneer farmer was largely self-sufficient. He built his own cabin, perhaps with the volunteer help of a few neighbors. He raised practically all of his food products. He produced the wool and flax (and in the South, cotton) which his wife and daughters spun into yarn and wove into cloth to supply the clothing needs of the family. He got hides from his own cattle, tanned his own leather, and made shoes for the family. He had his own shops in which he made his wagons, buggies, plows, harrows, small farming tools, and household furniture. In short, the pioneer farmer was a jack-of-all-trades. For the few things that he could not produce, he depended on the country store, to which he took some of his surplus products for barter. On the southern plantations where there were slaves and hired help, there was often a division of labor among the different workers. There were overseers, farm hands, stable men, blacksmiths, cobblers, each one a sort of a specialist in his own particular line. But while there was specialization by different workers, the plantation at first was self-sufficient to a large degree. It was a little economy in itself.

Conquest of the Wilderness. For two hundred years the pioneer farmer pushed on to the frontier, further and further in to the remote Indian country. He was beyond roads, railroads, and markets. He traveled with oxen and covered wagon. He fought out his battles with the wilderness and the Indians. He readapted the agriculture of his father to the new conditions of the frontier. He cleared the land, laid out his farm, built his home, and established his family, ever repeating the process of his restless, land-hungry ancestors. Thus was agriculture extended beyond the Alleghenies, into the middle west and southwest, across the great plains, through the files of the Rocky Mountains, into California and the Oregon country. The pioneer farmers did not cease their search for good land until they had explored the last valley or mountain pocket on the Pacific slope. Not until the close of the nineteenth century did this great westward movement of pioneer farmers come to an end. It was the most distinctive thing in our national history, something unique, full of adventure and romance, but explained by the simple fact of common men hunting better farming opportunities.

B. Development of Commercial Agriculture

Effect of Industrial Revolution on Agriculture. During the first hundred years that agriculture was spreading across the great American continent, great inventions were being made that changed the nature of American agriculture. From 1750 to 1850 the inventions that produced the Industrial Revolution came into fruition in western Europe and the United States. This period saw the development of water power, steam power, machine industry, the railroad, the steamship, and the factory. Manufacturing processes carried on in the farm home and shop by handicraft were moved to the factory. The farmer could no longer afford to manufacture his own clothing, shoes, furniture, wagons, plows, and smaller farm tools. All these could be produced by machinery in the factory more economically. Many of the farm workers followed the machine to the factory. There began the first migration of rural people to the cities. Turnpikes, canals, railroads, and steamships made possible the transportation and exchange of large volumes of products. The American farmer began to devote his entire time to producing strictly agricultural products. While he still continued to produce more or less of his own food supply, he turned his attention largely to producing products for the market. He became a commercial farmer. He raised for sale what he could market most profitably, and bought the goods needed on the farm that could be made more economically by machinery in the factory.

Influence of Farm Machinery. In the wake of the Industrial Revolution there followed a series of inventions in farm machinery that accelerated the tendency toward specialization in agriculture.[2] For thousands of years the chief power in producing agricultural products had been human labor or muscles. Animal power had been applied to agriculture in Europe and the American colonies only to a limited degree, in drawing plows, harrows, and vehicles. The first invention of great importance affecting work on the farm was the saw cotton gin. It came into wide use in the South after 1800 and was the chief factor in causing the rapid spread of cotton culture to all parts of the South. From 1800 to 1860 the South developed a commercial agriculture around cotton. Between 1830 and 1870 the mowing machine, the reaper, the thresher, the separator, the corn planter, the two-horse cultivator, and the twine binder were invented and came into wide use in sections where the cereals were raised. These implements encouraged the farmers of the upper Mississippi Valley to specialize in the growing of grain. Supplementary to these inventions in cereal machinery was the invention about 1875 of the refrigeration process and cars, which made possible the shipment of fresh, grain-fed, finished meat to the European market. This led to specialization in the production of hogs and beef cattle in the middle west. Abundance of land and scarcity of labor in America caused American farmers to use machinery more extensively than European farmers. This wide use of farm machinery facilitated specialized commercial farming.

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[2] Schmidt and Ross, *Readings in the Economic History of American Agriculture,* Ch. XVII; Faulkner, *American Economic History,* Chs. X, XIX.

Sectional Specialization. As specialization became possible, farmers in different geographical sections turned their attention more and more to the production of those products best adapted to their soils and climates, and for which there was the readiest market. Figure 1 shows the percentage of crop area occupied by different kinds of crops in the different states and sections in 1919. In New England and New York farmers have almost ceased to grow wheat and have cut their acreage in corn, because they cannot grow these cereals in competition with middle western and northwestern farmers. They have turned to the production of hay, fruits, and vegetables, potatoes, and dairy and poultry products. Climate, soil, and nearness to big city markets make these the most profitable products in that section.

In the Middle Atlantic states, farmers followed a mixed type of farming, producing wheat, corn, oats, hay, dairy and poultry products, and fruits and vegetables. In the southern states, farmers have devoted most of their acreage to corn, cotton, and tobacco, with a small acreage given over to small grain and vegetables. The southern states are dependent upon other sections for a large amount of their food and feed supplies. In the middle western states, corn, wheat, oats, and hay are the principal crops. Hog-raising, cattle-feeding, and dairying are important lines of production in some of the middle western states. In the plains and far-western states, wheat, hay, vegetables, and in the Pacific states, fruit, are the

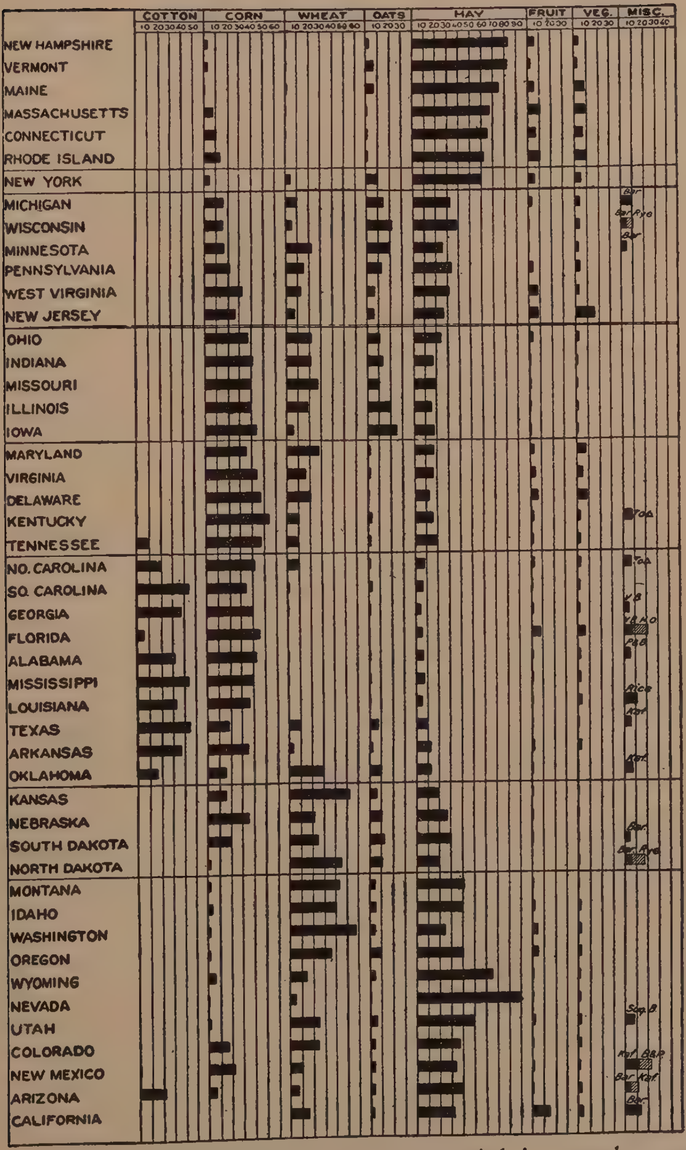

FIG. 1.—Percentage of crop area occupied in 1919 by crops named. (*Farmers' Bulletin* 1289, U.S.D.A.)

chief crops. Grazing is the most important industry in some of these states, and in a few sections poultry and dairy products are the most important output.

Where transportation costs have not been too great and marketing facilities too poor, the response to natural geographical conditions has been specialization. No doubt in some sections, specialization has gone too far, particularly in the failure to produce home feed and food supplies where they could be grown with a small amount of time and labor. But on the whole, this sectional specialization has followed the principle of economy—getting the biggest net return for the smallest amount of labor. Farmers have been wise to produce for the market those products that they could grow most profitably in their sections and buy those products that they could not grow profitably.

Urban Demand for Farm Products. Specialization in commercial production developed in response to the growth of domestic and foreign markets. The chief domestic market for farm products has been the American cities.[3] The moving of the manufacture of many goods to the factory, and the transportation and exchange of great volumes of goods gave rise to the growth of cities. As civilization advances a larger and larger proportion of the population is needed for the production of finished products. The nineteenth century was distinctly a century of the growth of cities. In 1800 less than 5 per cent of the population of the United States was living in places of 8,000 or more and were classed as urban, but by 1900, 40 per cent of the population was living in places of 8,000 or more. However, since 1910 the Bureau of the Census has classed as urban all persons living in places of 2,500 or more. Classifying as rural all persons living in the open country and in places of less than 2,500, and as urban all persons living in places of 2,500 or more, the rural and urban populations for each decennial census from 1880 to 1920 were as given in Table 1. According to this table the urban population slightly outnumbered the rural population in 1920.

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[3] For growth of American cities see Bedford, *Readings in Urban Sociology*, Ch. II; Faulkner, *American Economic History*, Chs. XII, XXIII.

TABLE 1. URBAN AND RURAL POPULATION OF UNITED STATES: 1880-1920

Census	*Number*		*Per Cent*	
Year	*Urban*	*Rural*	*Urban*	*Rural*
1880	14,358,167	35,797,616	28.6	71.4
1890	22,298,359	40,649,355	35.4	64.6
1900	30,380,433	45,614,142	40.0	60.0
1910	42,166,120	49,806,146	45.8	54.2
1920	54,304,603	51,406,017	51.4	48.6

However, the farm population, the number of persons actually living on farms, in 1920, was only 31,614,269, and according to the Agricultural Census of 1925 the total farm population had decreased to 28,981,669. The farm population of the United States is therefore just about one-fourth of the total population at the present time.

This rapidly growing urban population has created a powerful demand for agricultural products. Before 1850, Henry Clay, Kentucky statesman, advocated his famous American System, by which he proposed to build up American manufacturing and a large city population through a high protective tariff to furnish a market for the farm products of the middle west and the new northwest that was being brought under cultivation. Whether due to protective tariffs, immigration, or other forces, American cities grew very rapidly during the last half of the nineteenth century and the two decades of the twentieth century. This created a constantly growing market for agricultural products. The development of American agriculture must be understood in relation to this American urban growth.

Foreign Demand for Farm Products. The Industrial Revolution worked even greater changes in Europe that reacted upon American agriculture. During the nineteenth century northwestern Europe became the industrial workshop of the world. Urban population increased even more rapidly than in the United States. European agriculture could not begin to supply the food and fabric needs of this vast population. The demands of this deficit area were felt by the American farmer.[4] The rapid growth of railroad and steamship transportation connected the great surplus agricultural producing areas of the South and upper Mississippi Valley with this highly industrialized food and fabric deficit area of northwestern Europe. England has always been the greatest importer of our products. After 1870 Germany, France, and Belgium began to import. Our agricultural exportations to Europe were greatest during the period from 1870 to 1900. During this time we exported on an average to Europe, approximately the following percentages of the total production of our leading agricultural products: cotton, 66 per cent; tobacco, 45 per cent; wheat and flour, 25 per cent; pork, 20 per cent; beef, 10 per cent; and corn, 5 per cent. After 1900 the export of cereals, pork, and beef to Europe began to decline and declined till the outbreak of the war, after which there was a great increase in the export of these products that lasted till 1920. This European demand for a considerable proportion of our agricultural output has stimulated the growth and helped shape the trend of American agriculture.

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[4] See Nourse, *American Agriculture and the European Market.*

Rise of the Middleman. Specialized commercial farming brought the farmer into contact with many types of middlemen. To get farm products to the consumer, it was necessary to build up a marketing system that connected the remotest rural community with the most insignificant corner grocery store in the big city. For this purpose there came into existence a big array of middlemen, including local buyers in the country towns, who assembled farm products in carload lots and shipped them to the big assembling and distributing centers; boards of trade and farm produce exchanges in the biggest cities for facilitating wholesale buying and selling; special wholesalers, jobbers, brokers, foreign buyers, and commission men, who served the function of getting the products to the retailers in the required amounts; and finally the thousands of retailers who made the final link with the consumers. Farmers also became dependent upon the railroads for the transportation of the products they sold and bought, upon the merchants for their supplies, upon warehouses for storage, and upon bankers and merchants for the extension of credit. Dependency upon middlemen and middleman institutions is the price the farmer has had to pay for the change to commercial farming. The farmer's most difficult problems today grow out of this dependency.

Development of Farm Tenancy. Perhaps the most outstanding feature of the recent development of American agriculture has been the growth of farm tenancy. For a long time abundance of cheap land kept the percentage of farm tenancy low. But now nearly two-fifths of American farms are operated by tenants. Except in the southern states, where there is an abnormal situation because of the negro and poor whites, farm tenancy in the United States has not developed social class conditions, as has often been the case in European countries. But farm tenancy gives rise to new relationships in the rural community, particularly the landlord-tenant relationships. It produces new social problems in agriculture. Now we are asking whether we can maintain an efficient, wholesome agriculture with forty per cent of our farmers in the tenant class. Some of our most challenging problems in agriculture grow out of farm tenancy. This growth of tenancy is another phase of the evolution of an increasingly complex agriculture.

C. IMPORTANCE OF AGRICULTURE AS AN AMERICAN INDUSTRY

Number of People Engaged. For a long time agriculture was our foremost industry. While the total number of people engaged in agriculture has increased every decade, the proportion of the population who are rural has gradually declined, as was shown in the preceding section. The Census of 1920 gives the following figures for the number of people over ten years of age gainfully employed in different occupations:[5]

Manufacturing and mechanical industries	12,818,000
Agriculture, forestry, animal husbandry	10,953,000
Trade	4,242,000
Domestic and personal service	3,404,000
Clerical occupations	3,126,000
Transportation	3,063,000
Professional service	2,143,000
Extraction of minerals	1,090,000
Public service	770,000
Total	41,614,000

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[5] *The Statistical Abstract*, 1925, p. 47.

Agriculture, with 10,953,000 persons gainfully employed, ranks next to manufacturing and mechanical industries. It has slightly less than one-fourth of the total number of people counted as gainful workers. This does not include women doing household work and children under ten years of age.

There are several reasons why the number of workers in agriculture has declined relatively. The introduction of improved farm machinery creates a surplus of farm workers who go to the cities. Since 1870 the average crop output per farm worker has practically doubled in the United States. Again, as already shown, many finishing processes have been removed from the farm to the city, where they can be more effectively done. We may expect this tendency to continue. Also there has been a growing demand for more refined products. While there is just as much material in a crudely finished product as a refined one, the refined product requires a great deal more labor. Finally, as civilization, wealth, and prosperity increase, there is an increased demand for people in domestic, personal service, clerical, professional, and public service occupations. The demand for people in these other occupations has caused the decrease in the proportion of workers on farms.

Wealth in Agriculture. A recent report of the Federal Trade Commission, *National Wealth and Income* (1926), estimates the total national wealth of the United States in 1922, at $353,000,000,000, and the total farm wealth for the same year at $63,000,000,000. Thus about 18 per cent of the national wealth is agricultural wealth. This report also estimates the total national income for 1923 at $70,000,000,000, of which $9,400,000,000, or 13.5 per cent was income to agriculture. For 1920 it was estimated that the per capita net worth of the farming class was $1,978, as compared with a per capita net worth of $3,175 for the non-farming class.[6]

The National Industrial Conference Board estimated the per capita income of the farm population in 1919, 1920, and 1921 at $362, $298, and $186 respectively, and the per capita income of the non-farm population in the same years at $723, $816, and $701 respectively.[7] Except in a few rural communities, rural wealth is much more evenly distributed among families than is urban wealth. The rural communities do not have the extremes of riches and poverty that urban communities have.

Relation to Other Industries. Agriculture is the chief primary industry in the United States. The workers in all other occupations depend on it for their food supply. Certain manufacturing industries depend on agriculture for cotton, wool, hides, and other raw products. Agricultural products constitute nearly one-half of the total value of foreign exports, and about one-fourth of the value of all domestic trade. Farm products are about 13 per cent of the entire freight tonnage of the railroads. The farm population is one of the biggest consuming classes. The small-town business and professional classes are dependent to a notable degree on the prosperity or purchasing power of the farm population for their income. So are the manufacturers and industrial workers who produce goods largely consumed by farmers. Agriculture is one of the biggest fields for investments. In 1920 farm mortgage investments were over $4,000,000,000. For a long time farm land mortgages have been considered as

[6] Estimates by Gray and King, *American Economic Review Supplement,* March, 1923, p. 169.

[7] *The Agricultural Problem in the United States* (1926), p. 65.

among the safest securities for the investment of insurance and trust funds. The mortgage bonds of the Federal Land Banks and Joint Stock Land Banks are eagerly sought by investors. Agriculture is also a field for a heavy volume of short-time loans and the extension of store credit. Short-time loans in agriculture in the United States amount to $1,610,000,000 a year, and store credit is even larger. The biggest business of the small-town banks is with the farming population.

National Import of Agriculture. It is clear that agriculture in the United States has occupied a position of primacy since the founding of the nation. More than any other industry it has contributed to our national well-being. Though it has declined to second rank so far as number of workers is concerned, it is still regarded as our most important single industry. The people of the nation as a whole are perhaps more concerned about agriculture from the standpoint of national prosperity than any other industry. Through the national government they have provided for the distribution of the public domain, the irrigation of dry lands, agricultural education through colleges, high schools, and county agents, and the eradication of pests and diseases that hinder agricultural production. They have maintained a great national department of agriculture to promote agriculture in every possible way. The state governments have also done much to promote agriculture through education, regulation, and experimentation.

After the cheap lands were gone and evidences of soil exhaustion began to appear, attention was turned to improved production. Better livestock, better plants, soil conservation, careful cultivation, and eradication of pests and diseases became the first objectives of the new scientific agriculture. The agricultural problem was regarded as primarily one of increased production. "Make two blades of grass grow where one grew before," became the slogan. But farmers found that increased production alone would not solve the problem of their prosperity. Indeed they found that increased production might put them in a worse financial condition. For large crops they sometimes received fewer total dollars than for small crops. As the problem was studied it was found that the prosperity of farmers as a group was dependent on other factors than increased production. Among these other factors that had to be considered were the supply and price of land, renting land, use of working capital, borrowing money, farm labor, costs of production, farm organization, adjusting supply to demand, marketing, price changes, tariffs, taxes, and group influences through politics. A study of how all these factors influence agriculture and the farm population is the field of agricultural economics.

D. Definitions and Scope of Agricultural Economics

What Is Economy? Human beings have certain vital wants that must be satisfied. The most fundamental wants are food, clothing, and shelter. Savages as well as civilized people have these wants. But as civilization has advanced human wants have increased. To the very fundamental wants have been added thousands of comforts, luxuries, and amusements. Now nature supplies free to people only a very few of the things they want or need, such as air, sunshine, and water. Nature is stingy. People everywhere must put forth effort to satisfy their wants. Rarely can all human wants be satisfied completely. Human wants always increase faster than people's ability to satisfy them.

People usually do two things in attempting to satisfy their wants. (1) They tend to take the line of least resistance, they try to get the most they can for the least they can give. (2) They also choose between wants they will have satisfied and the ones they will leave unsatisfied. These two processes we call economy.[8] The savage group chooses whether it will satisfy the desire for venison or fish, or whether it will get more food or construct better wigwams. Whichever objective it chooses, it will put forth the least amount of effort to attain it. The modern working family has to choose whether it will have an automobile or a piano. When the choice is made to buy the automobile, it then tries to buy the automobile in the cheapest market available.

What Is Economics? To supply themselves most advantageously with all the commodities and services they desire, advanced peoples have slowly worked out a great cooperative system of specialized production and specialized services. In doing so they were hardly aware that they were developing such a system. It was a slow, gradual evolution. But today they are engaged in a great diversity of occupations to supply human wants. They have cleared farms, opened mines, built factories, railroads, and stores, organized banks, and learned special trades and professions to meet the demands for goods and services. All these different industries, trades, and professions have become closely interrelated. Each individual works in some special industry, trade, or profession, selling commodities, or labor, or services, and buys commodities and services from other individuals. Thus we have farmers, manufacturers, carpenters, miners, merchants, barbers, bootblacks, doctors, lawyers, and many other occupational classes. Groups and individuals have become greatly dependent upon one another. They satisfy their wants by exchanging goods and services. In doing so, they tend to follow the principles of economy—choosing what wants they will satisfy and trying to satisfy them by giving the least. Economics is the study of these various industrial activities. It is a study of how people get and use commodities and services, how they satisfy their wants.

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[8] See Gustav Cassel, *A Theory of Social Economy,* Ch. I.

The Field of Agricultural Economics. Farmers are engaged in many industrial activities. They are buying and selling farms; clearing, draining, and irrigating land; selecting types of farming and producing various kinds of products for the market; organizing their farm operations; hiring and using labor; borrowing and saving money; selling farm products and purchasing supplies; forming organizations to secure advantages in selling, buying, extending markets, getting credit, insuring their property, crops, and livestock, and getting legislation favorable to their interests; paying taxes; and promoting their various material interests. Agricultural economics is the study of these industrial activities of farmers. It is a limited field of general economics. It is a study of the principles of economy in the field of agriculture. Agricultural economics necessarily overlaps or touches specialized fields of general economics, as marketing, banking and finance, insurance, taxation, business organization, and labor problems. But agricultural economics is a distinct field of study. It deals with the economic facts concerning agriculture, observes them, classifies them, interprets them.

Aim of Agricultural Economics. The aim of agricultural economics is distinctly practical. It seeks to help build a sound and permanent agriculture. First, it seeks to discover and explain important economic principles underlying agriculture. It points out waste and lack of economy in agricultural operations. It compares different methods, and points out their advantages and disadvantages. It suggests agricultural policies. On the basis of history, experience, observation, and special data at hand, the agricultural economists construct a sort of an agricultural blueprint to be followed in trying to build the most economical agriculture. A knowledge of agricultural economics is valuable for statesmen, agricultural leaders, county agents, rural bankers, rural teachers, rural preachers, and all kinds of rural life leaders. If our nation is to direct its agriculture wisely, then its leaders and those in positions of power must understand the economic problems of agriculture. Particularly will farmers find a knowledge of agricultural economics useful. Unless they understand the economic forces that influence agricultural development, they will not be able to adjust their production to new and changing demands. The economic forces that play upon agriculture are extremely complex today. Agricultural economics is being simplified and taught in the rural high schools, where it reaches a larger number of boys who will become practical farmers.

Relation to Farm Management. Farm Management as taught in the United States is closely related to agricultural economics. It is usually defined as a study of the business aspect of farming, or of business principles in farming. As a practical study its purpose is to show how farms should be organized and managed to secure the greatest continuous profit. At first sight this seems to be very much the same field as that occupied by agricultural economics. But there is a real distinction. It is largely a distinction in point of view and emphasis on subject matter. The point of view of farm management is the individual farm or farmer, while the point of view of agricultural economics is all agriculture or farmers as a group. Farm management is concerned with the principles governing the successful and profitable operation of the farm from the point of view of the individual owner or operator. Agricultural economics is concerned with the economic principles underlying agriculture as an industry. The farm manager's chief interest is in his farm for the duration of his own lifetime or the period of his tenure. But the agricultural economist takes the long-time point of view. He studies agricultural trends over long periods, and explains forces and influences that affect the well-being of farmers as a group for successive generations. Farm management is concerned chiefly with the organization and operation of the farm for profits within the line fence. Agricultural economics studies the relation of agriculture to other industries and how general economic forces and changes influence agriculture. Agricultural economics is a much more comprehensive subject than farm management.

Relation to Rural Sociology. Rural sociology is a study of all the various factors that influence the physical, mental, moral, intellectual, and social traits of the rural population. It is concerned with heredity, types of physical environment, races, classes, customs, disease and sanitation, housing, religion, education, recreation, and all kinds of rural social organization. But all these non-economic factors influence the economic activities of the farm population, directly or indirectly. A knowledge of rural sociology gives the student of agricultural economics valuable clues for the interpretation of economic conditions and the economic behavior of the farm population. No one can fully appreciate and understand the economic situation of American farmers in all sections without knowing how the various sociological factors have influenced the people living on farms. For instance, it is impossible to understand the peculiar economic condition of agriculture in the southern states without first knowing how the people of the South have been influenced by race, disease, housing, education, and custom. The same thing is true for the Middle West and the northwest, particularly in those communities where there are a large number of foreigners.

Rise of Agricultural Economics. Agricultural economics has had a rapid development in the United States in the last fifteen years. All the agricultural colleges and many universities and private colleges now give courses in agricultural economics. The rapid development of the subject is due to the widespread recognition of the great importance of the economic phases of agriculture. In the last ten years the United States Department of Agriculture has given special attention to the economic problems of agriculture. The Department through its research and field survey work has compiled a vast amount of data now available for students of agricultural economics. In 1921 the Department established the Bureau of Agricultural Economics, under the able direction of Dr. H. C. Taylor, the founder of agricultural economics in the United States. This Bureau, cooperating with the colleges of agriculture, is now making special studies of practically every economic phase of American agriculture. The student of agricultural economics should keep in touch with the important work of this Bureau. The agricultural journals are now giving a great deal of attention to problems of agricultural economics. This is the channel through which the average farmer receives most of his information on the economics of agriculture.

Emphasis on American Agriculture. This text is concerned primarily with American agriculture. Special attention is given to the agricultural situation in the United States. Data on other countries are used for purposes of comparison and to explain how foreign factors have influenced our agriculture. But American agriculture has its peculiar conditions, and its peculiar problems. While foreign influences must be noted, the chief task is to explain developments, trends, and policies of American agriculture. An attempt is made to make as complete a study as is possible and practicable, for a short text, from the special American point of view. Of course, there is need for a comprehensive comparative economic study of agriculture in all the leading agricultural countries. But such a study must be the joint product of many authors, and will necessarily embrace several large volumes. As agricultural economics develops in all countries, we may hope for a great work of this kind in the future.

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CHAPTER II

THE FARM POPULATION AND FARM LIFE

A. TREND OF RURAL AND FARM POPULATION

Proportional Decline of Rural and Farm Population. Until the last few decades the United States has been primarily an agricultural nation. But while agriculture has remained our great fundamental industry right down to the present, the percentage of population that is rural has steadily declined. The United States Census classifies as rural all persons living on farms and in places of less than 2,500 population. As already shown in Chapter I (Table I) the rural population declined from 71.4 per cent of the total population in 1880 to 48.6 per cent in 1920. The farm population, however, which includes "all persons actually living on farms, without regard to occupation and also farm laborers (and their families)" was only about 30 per cent of the total population in 1920, and declined to about 25 per cent in 1925, according to estimates of the Bureau of the Census and the United States Department of Agriculture.

The percentage of the total population in the farm population class in the nine geographical divisions in 1920 was as follows: East South Central states 58.3 per cent; West South Central states 51.0 per cent; South Atlantic states 45.9 per cent; West North Central states 41.2 per cent; Mountain states 35.0 per cent; East North Central states 22.9 per cent; Pacific states 18.2 per cent; Middle

Atlantic states 8.5 per cent; New England states 8.5 per cent. For the different states the variations ranged from 2.5 per cent for Rhode Island to 71 per cent for Mississippi. States with less than 10 per cent of their total population farm population were Massachusetts, Rhode Island, Connecticut, New York, and New Jersey. States with over 60 per cent of their total population farm population were North Dakota, South Carolina, Arkansas, and Mississippi.

Not only has the rural population declined relatively in the United States, but during the last two decades many of the states and a large number of counties have suffered an absolute loss in rural population. From 1890 to 1900 twelve states lost in rural population; from 1900 to 1910, six states; and from 1910 to 1920, fifteen states. The greatest losses are noted when counties are taken as the unit. Six representative states show the following number of their counties losing in rural population from 1910 to 1920: Arkansas, 30 counties out of 75; Illinois, 72 counties out of 100; Kansas, 76 counties out of 105; Missouri, 95 counties out of 115; New York, 48 counties out of 62; Oregon, 14 counties out of 36. Most of these counties show only small losses, but some of them show losses ranging from 20 to 30 per cent in their rural population.

More striking than the decline in the proportion of population classified as rural and farm population has been the decline in the proportion of people gainfully employed in agriculture. While the percentage of the total population gainfully employed increased from about 25 per cent in 1820 to 42 per cent in 1920, the percentage of the total population employed in agriculture declined from 83 per cent in 1820 to 26 per cent in 1920.

Sources of Urban Increase. However, not all the rapid growth of cities in the United States has been due to the migration of country people to the cities. Immigration, excess of urban births over urban deaths, and incorporation of rural territory into urban territory have been responsible for the greater part of city growth. The per cent of the total increase of urban population from 1900 to 1910 due to four different factors has been estimated as follows:[1]

	Per Cent
Foreign Immigration	41.0
Excess of births over deaths	20.5
Incorporation of rural territory	7.8
Migration from rural territory	30.7

Causes of Decline in Farming Population. The causes for the decline in the proportion of the population living in rural communities are many. (1) As the factory system has developed manufacturing processes have been moved from the farm to the city and a part of the rural population has followed. (2) Improved farm machinery and other labor-saving devices on the farm have released many rural people to go to the cities. (3) As American society has advanced, the wealth per capita increased, and standards of living become higher, more and more people have been required for personal and professional service, for refining crude goods, and for transportation. People engaged in these services live in urban communities. (4) Since the American continent has been spanned and the best farm land brought into cultivation, there is not such a large demand for farm labor for clearing, draining, and bringing raw lands into an improved state. (5) The majority of recent immigrants have gone to the cities. (6) Urban life has attracted many rural people, young, middle aged, and old, because of the superior social, educational, and recreational advantages it offers.

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[1] Gillette, *Rural Sociology*, p. 89.

Social and Economic Effects of Cityward Migration. On the whole the migration of rural people to the cities has been economically advantageous for those remaining on the farm. This cityward movement has helped to keep a balance between agricultural and non-agricultural production. With plenty of cheap land and with entrance into agriculture fairly easy, there has been a tendency for unbalanced production in agricultural products. American agriculture has been severely competitive. The price of agricultural products has generally been low as compared with prices of other products. The constant migration of rural people to the cities has helped relieve this tendency towards unbalanced production in farm products. Again, it has been good for American agriculture that there have been other industrial outlets for a rapidly growing population. This has saved us from peasant farming, with its inefficient tools and livestock, its hand-and-hoe labor, its slavish field work of women and children, and its low standards of living. American farmers have led the world in the use of farm machinery and production of farm products per capita of farm workers. This has been the chief factor in giving American farmers a relatively high standard of living.

However, it should not be overlooked that some disadvantages have come from the cityward movement of the rural population. It has been suggested that the most aggressive and ambitious types of young men and women have been the ones to leave the farms in the greatest numbers, leaving the less aggressive and ambitious types behind, which has caused social and economic stagnation. This selective effect of rural migration has been greatly exaggerated. Not only have the aggressive young men and women left the farms, but also those individuals who were unable to get a start in farming and those who disliked farming and who had no likelihood of succeeding in farming. In some communities it would appear that too many of the most promising young men and women have left the farms, and that the communities have suffered a distinct loss in their going to the cities. But it is not safe to make any sweeping generalization about this matter until we have more first-hand evidence from field studies.

Though we know very little about the selective effect that the cityward migration has had on the quality of the rural population left behind, there are some effects that are much better known. It appears that about 50 per cent of those born on American farms have migrated to the cities. The percentage varies widely from community to community. One known effect of this migration is to give the rural communities a larger proportion of population under 15 years of age than the urban communities have, and a smaller proportion of population between the ages of 15 and 44. There is little difference in rural and urban proportions of the population 45 years of age and over. Table 2 shows this age group distribution for rural and urban communities for the Census of 1920.

TABLE 2. AGE GROUP DISTRIBUTION OF RURAL AND URBAN POPULATION, CENSUS 1920

Age Group	*Rural* %	*Urban* %
Under 15	36.2	27.6
15–44	43.5	50.9
45 and over	20.2	21.3

The rural population has a relative excess of about two million persons under 21 years of age, and is likewise short about two million persons over 21 years of age. The rural communities bear the burden of educating a large number who immediately leave for the city. The urban communities gain in productive man power without bearing the cost of early training and education.

Overpopulation in Agricultural Communities. A hundred years ago the English founders of classical economics had much to say about overpopulation. Thomas Malthus wrote a treatise on population in which he stated his famous law of population as follows: Population tends to outstrip the food supply, and is checked either through war, famine, vice and disease, or through decrease in the birth rate by late marriages and moral restraint of the sexual passions. In his famous book Malthus set forth many facts from many countries to show that population had usually tended to outstrip the food supply and that hunger, starvation, infanticide, disease, and cheap regard for human life had attended this overpopulation. These populations were those that had lived chiefly under rural conditions. Though Malthus' theory has been severely criticized by many writers, we know that it contains an essential truth. In modern civilized communities, under improved industrial conditions, overpopulation does not operate so severely as it did in former times, but there is no escape from the fact that too many people in relation to natural resources make human labor cheap. We see this in China, Japan, and India today.

Because of the abundance of cheap land in the United States and increasing industrial opportunities, population pressure has scarcely been felt. But there are some farming communities in the United States, chiefly in the South, where excess of farm population has made farm labor cheap. The birth rate of the American rural population has been high. Some of the highest birth rates in the country are found among the poor whites and the negroes of the rural sections of the South. Till lately there has been no industrial outlet for the surplus population of the farms. Small farms, inefficient tools, much hand labor, child and woman labor in the fields, low income, and low standards of living have been the result. A large number of white and colored farm families in the South live under conditions that approach old-world peasant farming, characterized by hard hand work, much drudgery, and low standards of living. When the high birth rate of these southern farming communities is considerably reduced the farming class will become more prosperous. Industrialization in some sections of the South is now absorbing much of the surplus rural population.

B. The Social Organization of Rural Life in the United States

The Farm Family in the United States. The social organization of rural life in the United States begins with the farm family. It is the primary unit of rural life. The farm family in the United States performs the same universal functions that belong to the family in all the countries of Western Civilization, such as affording companionship, rearing and training children, and facilitating division of labor and work. But there are certain peculiarities of the farm family to be noted. Life and work on the farm is unifocal in that it centers about the farmstead and the farm home. While there are many different kinds of work and chores to be done, they are carried out on a basis of division of labor, and a conscious plan of cooperation. Each member of the family has his special daily tasks. Each realizes that the successful operation of the farm and farm home depends on his doing his part faithfully. For this reason the farm family has always been noted for its discipline and training in industry.

The nature of farm work and isolation from other groups have always kept the members of the farm family much together. The different members of the farm family usually rise about the same time and begin the day's work about the same time. They eat three meals a day together. They spend most of the evenings together. They discuss the general family problems among themselves, about the table and around the fireside. This daily intimate association of all the members of the farm family has given the farm family a solidarity that stands out in decided contrast with the weaker family unity of the city, where life is bifocal, with interest divided between the home and down town.

This family loyalty and devotion of country people remains after children have grown up and married. The young man entering upon farming himself usually receives some kind of aid from his parents in getting started. He may begin working a part of his father's farm or all of it, or his father may give him financial aid in buying a farm of his own. Money is readily loaned among members of the same family, usually on easy terms and often without interest. Brothers and sisters remain loyal and helpful to one another after living under separate roofs. The family reunion is a very common practice among rural people. It is not uncommon to find family loyalty in many rural families reaching a degree of clan kinship loyalty such as existed among our early European ancestors. There are many rural neighborhoods and communities in the United States that are knit closely together through a nexus of blood and marriage family relationships. Many rural communities still have a kind of patriarchal leadership, based on family loyalty and respect for the old.

The Rural Neighborhood. The next important social unit in American rural life is the neighborhood.[2] The rural neighborhood may be defined as a group of farm families living close together, who are in the habit of making frequent social contacts with one another. Though the farming population of the United States has never lived in villages, as European farmers have always lived, it has lived in neighborhoods in which it has carried on various phases of a common life. The early pioneers going out to the frontier often migrated in groups and took up land and built homes close to one another. From the very beginning of settlement rural families living close together felt an interest in one another and neighbored with one another. Neighborhood life was built up around a number of common interests and institutions. Families visited one another frequently. They met at different farm homes for parties, singings, corn huskings, quiltings, log-rollings, wood choppings, barn and house raisings and coverings, and a dozen other forms of neighborhood association. The crossroad country store, the post office, the blacksmith shop, and the grist mill were gathering places that served the function of a social center for small neighborhood groups of farmers, particularly on rainy days and during the seasons when farm work could not be carried on. Many a weighty problem was discussed by the farmers at these informal social centers. The little one-room schoolhouse brought members of the neighborhood together more or less frequently for voting, school closings, debates, and political speakings. The neighborhood churches were attended by most of the people on Sundays.

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[2] For description of the rural neighborhood in various sections of the United States see the following Experiment Station bulletins: Cornell (N. Y. 422; N. C. 245; Mo. (Research) 74; Mont. 160; Wash. 203 and 215; West Va. 176; Wisc. (Research) 51.

Economic Significance of the Neighborhood. Though the rural neighborhood has existed primarily for social and recreational purposes, it has had an economic significance. In the early days the neighborly exchange of work and the gathering of all the farmers of the community to help some neighbor complete a piece of work were distinct advantages. One of the most important economic results of the neighborhood has been the exchange of ideas of the kind of crops and animals to raise, methods of cultivation and harvesting, how to care for livestock, how and where to sell and buy. In any rural neighborhood gathering, farm methods and farm work have always been the chief theme of conversation. In every rural neighborhood there have usually been one or more outstanding successful farmers, who have been more or less looked up to and imitated by the other farmers in the neighborhood. Through this means, agricultural knowledge has spread throughout the neighborhood. The country store and the country church have particularly served the purpose of rural social centers for the dissemination of ideas about farming. Though farmers have gone to church to worship, they have also taken advantage of this weekly gathering to exchange ideas by gathering early before services for friendly chats and lingering after services to continue conversations. In addition to giving farmers opportunities for the exchange of ideas on farming, these neighborhood meetings and gatherings have also afforded farmers an opportunity to discuss their relations to other groups and government. The rural neighborhood group has been the smallest unit for generating a class consciousness among farmers through group discussions. Also there have been many different farm organizations aiming distinctly at agricultural improvement, which have been organized on a neighborhood basis, such as the Grange, the Farmers' Alliance, the Farmers' Union, the Society of Equity, the Gleaners, and the Farm Bureau. These organizations have done much to give farmers new ideas concerning their occupation and their relation as a group to other groups.

The New "Rurban" Community. American farmers have always depended on country towns for various kinds of services. The county seat has been the farmer's political capital. To it he has gone to get legal services, to record deeds and mortgages, to serve as juror, to pay taxes, to be advised about school and road affairs, and to attend political rallies and conventions. The farm family has gone to town for much of its medical and most of its dental services. The little weekly newspaper that the farm family depended on for contacts with the outside world was published in the country town. The star mail routes and the rural free delivery mail routes radiate from the country town. But the farmer's biggest interest in the country town is economic. The country town is his trading and shipping center. Farmers depend on country town buyers for the sale of their staple products. They buy practically all of their machinery, most of their hardware, and much of their clothing and groceries from the country town merchants. They use the town banks for borrowing money and for carrying deposit and savings accounts.

Though there has always been a close economic relationship and dependence between farmers and the inhabitants of the small towns, the coming of the automobile and good roads have developed new town and country relationships, and farmers are becoming much more dependent than ever before on the country town. The country store is rapidly disappearing and the farmer is doing practically all of his trading in the country town. The farmer is building in the town a larger and more efficient cooperative unit for the processing, grading, and sale of his products, thanks to auto-truck transportation. The farmers' cooperative store, once limited by small neighborhood patronage and inefficient management, can now be operated on a large scale with efficient management in the town trading center. Farm families find more of their recreation in the town centers where they attend movies, dances, and large social gatherings. Many farm families now worship in town churches. They are cultivating friendships with town families. Visitation between town and country families is increasing. Many farmers are sending their children to the town high schools. In brief, town and country folks are being woven together in a complicated web of human relationships that tends to make them one for many purposes. The little rural neighborhoods that once meant so much to farm families are disintegrating. A bigger community, embracing town people and the people of the surrounding rural territory, is being built up. This new rural-urban community composed of both rural and urban people has been called the "rurban" community.[3] A distinctive feature of American farm life today is that it is being rapidly reorganized about country towns as economic and social centers.

Economic Significance of the New "Rurban" Community. American farmers are finding their increased contacts with country towns economically advantageous in a number of respects. Their wants are much better supplied. They now have better markets for their products. One of the most promising features of this "rurban" reorganization of farm life is cooperation between farmers and country town business men. It is easy to see now how vitally dependent town and country are upon one another. The farmers and the town business men see that their prosperity rises and wanes together. Merchants, bankers, and professional men in the country towns realize, as never before, that their economic prosperity depends on the economic prosperity of the farmers. Many small town chambers of commerce are fostering movements for better farming, better livestock, and better marketing facilities for farmers. Bankers in particular are taking a lead in this movement. More contacts and associations and frank discussions of interests between farmers and small town business men are removing ungrounded suspicions. We may expect farmers to assume more direct financial interests in the economic institutions of the towns in the future, as owners and patrons of buying and selling cooperative organizations, stockholders and directors in country banks, share-holders in stores, and purchasers of such municipal services as lighting and telephone communication.

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[3] Galpin, *Rural Life,* Ch. IV.

C. Physical and Mental Traits of the Farm Population

Race and Nativity of Farm Population. The total farm population in 1920 was 31,614,000. Of this number 24,842,000 were native whites, 1,471,000 foreign born whites, and 5,300,000 colored. Table 3 shows the percentage distribution of these three classes in the nine geographical divisions.

TABLE 3. PERCENTAGE DISTRIBUTION OF CLASSES OF FARM POPULATION BY GEOGRAPHICAL DIVISIONS, CENSUS 1920

Geographic Divisions	*Native White*	*Foreign Born White*	*Colored*
United States	78.6	4.7	16.8
New England	87.3	12.4	0.3
Middle Atlantic	92.5	6.7	0.8
East North Central	92.3	7.1	0.6
West North Central	89.8	9.3	0.9
South Atlantic	63.1	0.3	36.6
East South Central	70.6	0.2	29.3
West South Central	73.8	2.7	23.5
Mountain	85.9	9.4	4.7
Pacific	78.6	15.8	5.7

Native whites constitute more than three-fourths of the farm population in the United States, ranging from 63.1 per cent in the South Atlantic states to 92.5 per cent in the Middle Atlantic states. Foreign born whites are less than 5 per cent of the total farm population in the United States as a whole, but range as high as 15.8 per cent in the Pacific states and 12.4 per cent in New England. Colored farm population is confined almost exclusively to the three southern divisions where the range is from 23.5 per cent to 36.6 per cent, practically all negroes; and to the Mountain and Pacific divisions, with about 5 per cent, who are chiefly orientals.

The native white farm population of the United States is for the most part descended from the peoples of western Europe. These peoples began to migrate to America during the seventeenth century. The English, the Scotch-Irish, the Germans, and the Dutch were the chief comers. The English settlements were the first and occupied the

Atlantic seaboard. The few Dutch settlements were chiefly in New York. The Scotch-Irish and Germans, coming a little later, found the best lands along the seaboard already occupied and pushed on to the frontier hill country beyond the English settlements. The long, hard journey from the old country to the new and the hard life in the early settlements had a tendency to weed out the weak and leave only the strong to struggle with the wilderness. The native white farming population of the United States has always been the strongest, healthiest element in the entire national population.

In the early period there was brought to the southern colonies a large number of unfortunate white people who had been paupers or criminals in England, or who were unable to secure passage to America except by selling themselves into servitude. They were glad to escape from the hard conditions of life in Europe and to have an opportunity to start life again in the new world. After serving out the years of their servitude they began to shift for themselves. Some of them became farm laborers and farm tenants on the farms of their former masters. Some took up inferior lands in swamps and pine barrens. Others went on to the frontier and took up good lands. Held down by an unequal start, remaining ignorant, and living under isolated conditions, a large number of this class in the South has remained in a backward economic and social state.

When the Middle West and Northwest were open for agricultural settlement and the frontier had been pushed out along the new railroad lines, two new tides of European immigration set in. One was the late German immigration that began about 1840 and lasted till 1890, reaching its crest from 1880 to 1885. The other was the Scandinavian immigration from Norway, Sweden, and Denmark, which began about 1860 and lasted down to 1910. These German and Scandinavian people going into the upper Mississippi Valley have formed an important element in the farm population of that section. They have had the virtues necessary for good farmers—industry, thrift, patience, and foresight. They came with a good elementary education. They have rapidly taken over American methods of farming and living.

In the last few decades the United States has received millions of immigrants from eastern and southern Europe. The vast majority of these have gone to the cities, but a considerable number have trickled out to rural communities, usually settling in colonies. In 1920 there were over 800,000 of these foreign-born southeast Europeans in American rural communities, not including their children born in this country. Nationalities with the largest number were Italians, Russians, Poles, Hungarians, Serbs, Finns, and Greeks. The Poles, Russians, and Finns have been close seconds to the Germans and Scandinavians in taking over American methods of farming, though they have usually been slower to give up their European standards of living. The south Europeans, particularly the Italians and Greeks, have followed lines of agriculture more like the agriculture in their own countries, farming on a small scale and using a minimum of farm machinery. The standard of living of the south Europeans has been relatively low, but we may expect it to rise as these people accumulate wealth and give up their native customs.

The 5,300,000 colored farm population are chiefly negroes living in the southern states. They are the descendants of the African slaves brought to the colonies during the seventeenth and eighteenth centuries. Though given their freedom during the Civil War, most of the slaves remained on the farms of their masters, where they worked either as wage hands, or croppers. As croppers they furnished nothing except their labor and received a part of the crop in return. This was the origin of the famous cropper system that still prevails in the South. Some of the negroes in the South, however, have made considerable progress. About one-fourth of them now own farms. But a great majority of the farm negroes in the South are still in a backward economic and social state. Their schools have been very poor and they have remained illiterate. They have been badly exploited and discriminated against in some sections. They have not developed habits of industry, thrift, and foresight, necessary for the economic progress of any class.

In sharp contrast with the negro farm population in the South is the colored oriental farm population on the Pacific Coast, chiefly Japanese and Chinese. Altogether they number less than 150,000. They are very thrifty and industrious, and are content to live on a low standard of living. They have accumulated farm property rapidly. But their competition has stirred up the bitter hatred of the white farm population in these states. In the last few years the state legislatures of California, Oregon, and Washington and several other western states have enacted anti-alien land laws which prohibit aliens who cannot become citizens (as is the case with foreign-born Japanese and Chinese) from owning or leasing land. These anti-alien laws, together with the recent oriental immigration exclusion law, will cause the colored oriental farm population in the United States to decrease.

Rural Health.[4] The rural population on the whole has better health than the urban population. The urban death rate has always exceeded the rural death rate. However, in the last two decades the urban death rate has dropped much faster than the rural death rate. This is brought out in the following figures showing the urban and rural death rates per 1,000 population at these different periods.

	1900	*1910*	*1916*	*Decrease 1900-16*
Rural	15.2	13.4	12.9	2.3
Urban	18.9	15.9	15.0	3.9

While the urban death rate per 1,000 dropped 3.9 from 1900 to 1916, the rural rate dropped only 2.3. But the rural rate is still 2.1 lower than the urban rate. In 1916 the death rate per 100,000 population for fifteen leading diseases was greater for urban communities in ten and for rural communities in five, the latter being typhoid fever, malaria, smallpox, whooping cough, and influenza. Typhoid fever is one of the worst of the rural diseases, causing heavy economic loss. In some counties in the United States as high as 10 and 12 per cent of the rural population have been afflicted. The death rate in urban communities has fallen faster than the death rate in rural communities because of the attention given to the control of contagious diseases by urban health officials.

In the southern states two diseases have greatly afflicted the rural population—hookworm and malaria. They have caused great economic loss. In 1914 it was estimated that two million rural people in the southern states were suffering from hookworm. In some southern communities

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[4] For fuller account of rural health conditions in the United States see Gillette's *Rural Sociology,* Ch. VIII, and Taylor's *Rural Sociology,* Ch. XV.

40, and 60 and even 90 per cent of the farming population is afflicted yearly with malaria. This disease entails great economic loss. The person infected with malaria is frequently half sick all the time.

Examination of recruits in the late war revealed numerous physical defects in both the urban and rural population. Urban communities had a rejection rate of 21.6 per cent, whereas rural communities had a rate of 16.8 per cent. Out of 19 disqualifying defects, there was a higher percentage in 9 for rural young men. The Surgeon General has reported that the total defects per one hundred recruits was 38.3 for urban men and 33.3 for rural men. A study made by the National Educational Association of 294,427 school children from 25 leading cities and 1,831 rural districts, showed more defects among country children than urban children. The following figures show how urban and rural communities compare in the percentage of children having certain defects.

Type of Disease	*Rural* %	*Urban* %
Teeth defects	48.8	33.5
Tonsil defects	28.1	16.4
Throat defects	26.5	20.4
Adenoids	23.4	12.5
Eye defects	21.0	13.4
Nose defects	36.6	21.9
Malnutrition	16.6	7.6
Ear defects	4.7	1.2
Breathing defects	4.2	2.1

Mental Health. Mental deficiency in the rural population varies all the way from mental backwardness to acute forms of insanity and extreme feeble-mindedness.[5] The Jukes and the Kallikaks have become classic examples of rural families of mental defectives perpetuating and increasing their kind from generation to generation. In a survey made in New Hampshire it was found that the proportion of persons feeble-minded increased with the ruralness of the counties. In a rural section of Pennsylvania 508 persons out of a population of 16,000 were found to be feeble-minded, and in two settlements the percentage of feeble-minded ran as high as 26.6 and 57.7 per cent of the population. In eleven rural counties in Indiana a total of 4,316 feeble-minded persons were found. An investigation of almshouses in Missouri showed half the inmates feeble-minded. A recent investigation in Georgia showed 40 per cent of the inmates in almshouses feeble-minded. It was found that in some of the almshouses in Virginia as many as four generations of the same family had been wards of the public. It was found in the selective draft that the mental deficiency rate was nearly twice as high among draftees from rural sections as from the urban.

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[5] See Gillette's *Rural Sociology*, Ch. VII; Phelan's *Readings in Rural Sociology*, pp. 203-223, and Sims' *Elements of Rural Sociology*, Ch. IV.

But above the class of the actually feeble-minded is a much larger class on the borderline between the subnormal and the normal. They are the never-do-wells. In some sections, among the white population, they are called "poor white trash." They are shiftless, indolent, improvident, and stupid. It is impossible to say whether natural inheritance or generations of unfavorable social heritage accounts for their backwardness.

The mentally deficient and backward class of farmers cannot attain land ownership. The accumulation of landed property requires industry, foresight, frugality, and good judgment. Those who are lacking in these qualities rarely get beyond the stage of farm laborers and croppers. The dependence of farming upon markets, finance, and scientific methods in modern times has made it even more difficult for the mentally backward to come into possession of land. There is every reason to believe that a thoroughgoing mental survey of the great mass of croppers, white and colored, in the southern states would show a surprising amount of borderline mentality. The economic backwardness and lack of progress among these classes cannot be understood without a knowledge of their mental conditions.

Occupations and Mental Attitudes. Every occupation produces peculiar mental attitudes. The natural and social environment of the rural population has developed certain mental traits that affect rural economic activities and relations.[6] These traits have been passed on from generation to generation, not through biological heredity, but through social contacts and imitation. Children get their ideas from their parents and other people in their neighborhood with whom they come into contact. The stock of ideas is added to each generation and passed on to the next by these social contacts. All the members of a family think alike on most things, as do all the people of the same community. This uniformity of thought is the result of frequent association and having interests in common. The natural hereditary mental equipment of a thousand children born on farms would perhaps not differ at all from the natural hereditary mental equipment of a thousand children born in cities. Each class of children develops different mental traits as it grows to adulthood because of different environments. However, it must not be thought that only the farming population possess the mental characteristics noted below. The farming population has them to a more pronounced degree than other classes. These traits are all possessed by other classes to some degree.

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[6] For excellent characterization of the mental attitudes of the farming population of the United States up until a decade ago see Williams' *Our Rural Heritage*.

Conservatism. The farming population tends to be conservative. Farmers have been lacking in social contacts. They have not read as much or as widely as urban people. They have not recognized a sharp competition that would compel them to make changes in their processes of work as have manufacturers, tradesmen, and other classes. The farmer receives his income in the form of products from the soil, and not by close margins in buying and selling. He has depended on hard work to increase his income rather than change in his methods of production and selling. With a minimum of leisure time, farmers have not developed critical reading habits. They have taken the line of least resistance and retained their old ideas. Isolation has prevented farmers from becoming members of such clubs and organizations as generate new ideas and give one a forward look.

Radicalism. In strange contrast to their conservatism, however, American farmers have at times shown radical tendencies. As a group they have demanded sharp political changes which they believed would affect their economic condition. The Greenback and Granger movements and the more recent Non-Partisan League movement, with their radical demands for cheap money, government controlled and managed industries, and their extreme class views, have come out of the agricultural sections. These radical movements have arisen out of low prices for farm products. The supply of farm products, with so many farmers producing and selling individually, cannot be easily adjusted to demand. Overproduction in relation to other products cannot be easily and quickly reduced. All farmers suffer the same consequences of low prices. They all become discontented. They all have the same interests. This common discontent is tinder for a blind radical movement for adjustment. Farmers have usually not understood the real fundamental economic causes of their unfavorable situation. They have often struck back blindly at what they imagined to be their chief foes, as the currency system, railroads, big business, and middlemen. This lack of understanding of the real causes of their troubles and the widespread common discontent among them have been the chief causes for radical movements among American farmers at times. But as American farmers come to understand more thoroughly the real economic forces in society they will be less subject to radical economic and political movements.

Thrift. The farming population has had more of a tendency to save than the urban population. Conspicuous waste has never flourished as much in rural communities as it has in urban communities. Social rivalry between families in rural communities has tended to take the line of saving rather than spending. In the rural community all the people know one another. Wealth is exposed to the view of all in the form of land, houses, barns, and live stock. Social esteem is gained by saving and coming into possession of these forms of visible wealth. But in the urban community people do not know one another so well and who owns each home and business. Much wealth is invisible, in corporation and bank stock, in bonds, and various kinds of investments. Individual possessions are not in evidence. Consequently social rivalry takes the form of spending that will attract attention, as in rapid changes and extravagance in dress, fine automobiles, and conspicuous displays of waste on various occasions. The ever-present display of the urban show window is a temptation to spend. Class rivalry, imitation, and aping of superiors are the mainsprings of extravagance in urban communities.

Fatalism. A strong belief in the controlling hand of a mysterious Providence has characterized the farming population. The farmer works close to nature. He has not understood her mysteries. He has read in the changing aspects of the moon admonitions to do or not do certain things at certain times. Though the farmer works hard, prepares the seed-bed carefully, and cultivates diligently, he often gets a poor crop or loses it. He finds he has little or no control over heat, frost, rainfall, hail, drouth, or pests. Neither does he understand how these forces of nature operate. He feels himself in a helpless condition. He accepts the philosophy that man proposes but God disposes. Farmers grumble at their hard lot but complacently accept it as the will of a Power over which they have no control. This view is in sharp contrast to the view that comes to be accepted by the mechanic or the business man who controls the machine or business process through which he sees his own success attained. A knowledge of scientific agriculture and how the forces of nature operate diminishes the fatalistic beliefs of farmers.

Suspicion. Farmers are said to be unduly suspicious of new things and new suggestions. They have often been "taken in" by fakers. Knowing little about sharp practices and unable to distinguish between real and apparent values, they have been easy victims of high-pressure salesmen and ingenious peddlers of useless wares.

Rural communities have always been excellent territory for the swindlers. Also in many communities farmers have experienced losses with mismanaged cooperative buying and selling organizations, often due to their own bad judgment in selecting managers. These memories are too vivid to let any new proposals pass without a great deal of distrust and suspicious scrutiny. These suspicions sometimes prevent farmers from giving consideration to proposals that would be to their advantage and that merit their support. However, American farmers are becoming wiser. They are reading more. They are learning to depend on experts. They are making more business and social contacts with the rest of the world. Knowledge, understanding, and ability to discriminate banish suspicion.

Inalertness. In the past agriculture has never required a great deal of mental alertness. Quick adjustments have not been necessary. Rural life has been relatively simple. Farmers have had a very limited number of those social contacts that develop sharp wits. The hard, tiring work of the farm has not been conducive to alert thinking. The farmer has depended to a large extent on muscle and brawn to accomplish results. He has not developed the habit of quick and precise thinking. He has followed routine methods to a large extent. These are the reasons why farmers have so often been called slow-witted. But today American farmers are developing more mental alertness. Commercial crops, price changes, marketing and a dozen other new factors are a sharp challenge to the farmer's wits. The social, economic, and political contacts of farmers are rapidly increasing. As agriculture is made a science and a profession and its economic, social, and political phases are given more attention by farmers, the farmers will become just as mentally alert on their problems as other groups.

Literacy. The mental attitudes of farmers are influenced very greatly by the degree of literacy or education. The traits discussed above are possessed in varying degrees by different farmers. Wider knowledge and more advanced education tend to eliminate the peculiar traits of the rural mind. The majority of rural schools are still backward and are doing little to help farmers see the world as it really is today. But the level of rural intelligence is slowly and gradually being raised. While there are still many illiterate farmers, particularly in the southern states, the great majority of the American farmers are reading semi-weekly and daily papers and farm journals. Many are attending agricultural extension lectures and demonstrations and reading agricultural bulletins and market reports and news. The automobile has brought farmers into closer contact with city business men. These new contacts are giving many farmers a different outlook on their own occupation and breaking down the sharp mental contrasts that have existed in the past.[7]

Heritage of Agricultural Ideas. Every rural community has a stock of agricultural ideas held in common by the members of the community. This common fund of agricultural knowledge is the result of slow accumulations. Out of experience the tillers of the soil have learned how to use and grow plants and animals, how to prepare seedbeds, how to cultivate plants, and how to harvest crops. This knowledge is passed on from generation to generation. The success of any individual farmer depends upon his use of this common stock of knowledge. The boy growing up on the farm learns from his father how to care for animals, how to grow different kinds of crops, and how to manage a farm. Farmers learn from one another through social contacts and exchange of ideas and experiences. Any agricultural knowledge tends to become the common stock of the entire community.

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[7] For description of changing mental attitudes of farm population under régime of scientific agriculture see Williams' *Expansion of Rural Life.*

In recent times the agricultural experiment stations, the colleges of agriculture, and the state and national department of agriculture have become the chief agencies for experimenting in agricultural methods and for the accumulation of agricultural knowledge. This new knowledge of agriculture is made available to farmers through college and high-school instruction, the work of farm demonstration agents, farmers' institutes, bulletins, and farm journals. This conscious experimentation in agriculture and the organized diffusion of agricultural knowledge is one of the most unique phases of modern agriculture. Millions of dollars have been added to the general farm income through the spread of scientific knowledge concerning the production and marketing of agricultural products.

D. Standard of Living of the Farm Population

Meaning of Standard of Living. By standard of living is meant the goods, conveniences, and services which a family may have for the satisfaction of its wants. It is the consumptive side of family life. The chief elements that are usually thought of as entering into a standard of living are (1) food, (2) clothing, (3) shelter, (4) household comforts and conveniences, (5) means of travel and communication, (6) medical and dental services, and (7) cultural and recreational facilities, as books, papers, magazines, pictures and musical instruments.[8] The degree to which these different elements are enjoyed varies greatly among families and classes. Likewise, there is great variance in the quality of the elements for different families and classes. Within limits the standard of living enjoyed by any family is determined by its income. The great majority of families are limited in their expenditures by the family income.

Influence of the Standard of Living. The standard of living affects the farm population in several ways. Food, clothing, housing, and medical services influence health, vigor, and earning capacity. The degree to which a modern farm family can have the higher things in the standard of living, as running water, electric lights, automobile, telephone, papers, magazines, books, and music, determines in a large measure its happiness and contentment. Rural welfare and rural progress depend on the standard of living. The progressive farm community is usually one with a high standard of living. The backward farm community is usually one with a low standard of living. The outlook that farm children come to have on agriculture as an occupation is largely determined by the standard of living they have experienced as they have grown up on the farm. The dignity of agriculture as an occupation depends more on the standard of living of the farm population than anything else. A high standard of living on the farm helps produce a population with intelligence, vision, and hopeful outlook. Nothing is more depressing for agriculture than a low standard of living. Edwin Markham, in his poem, "The Man with the Hoe," has given us a classic word picture of the peasant farmer with his low standard of living, without hope, and nothing but a life of drudgery ahead of him.

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[8] See following standard of living studies: *U. S. D. A. Dept. Bul. 1466; Ia. Sta. Bul. 237; Minn. Sta. Bul. 240 Cornell (N. Y.) Sta. Bul. 423.*

Bowed by the weight of centuries, he leans
Upon his hoe and gazes on the ground,
The emptiness of ages in his face,
And on his back the burden of the world.

Who made him dead to rapture and despair,
A thing that grieves not and that never hopes,
Stolid and stunned, a brother to the ox?

. . . .

Down all the stretch of Hell to its last gulf
There is no shape more terrible than this—

. . . .

Through this dread shape the suffering ages look;
Time's tragedy is in that aching stoop;
Through this dread shape humanity, betrayed,
Plundered, profaned, and disinherited,
Cries protest to the Judges of the World,—
A protest that is also a prophecy.

The American Farm Standard of Living. There are wide variations in the farm standard of living in the United States. As compared with European farmers, the American farmer has had a much higher standard of living. Most American farm families have enjoyed plenty of good food and fair housing. The American farm income has been much greater than the income of the peasant farmer in Europe, due to our abundance of cheap land, the extensive use of farm machinery, and greater production per farm worker. However, when the American farm standard of living is compared with the standard of living of the dwellers in American cities it is found to be relatively low. The middle class in American cities, as merchants and professional people, and even skilled workmen, have had more comforts and conveniences and luxuries than the farming population. These classes have lived in better homes, had more home conveniences, and have had a higher standard of dress than the farming class. Only the unskilled laborers have had a standard of living as low or lower than the American farming class. In the southern states there are several million farm families in the white and negro tenant class that have unusually low standards of living.

Of course there have always been a few American farm families that have enjoyed a good standard of living. This was notably true of the big land owners of the old South. These planter families had good homes, sometimes mansions, many comforts and luxuries, servants, and the very best cultural facilities in their homes. During the last few years there has been considerable improvement in the standard of living of 10 to 15 per cent of the farming population, and of a much higher percentage in some farming communities. An index of this improvement is seen in the number of homes reporting touring cars, telephones, water piped into houses, and gas and electric lights. The per cent of farm homes in the different agricultural divisions having these conveniences in 1919 is shown in Table 4.

The lowest standard of living on American farms prevails in the southern states among tenants and croppers, both white and colored. The type of house occupied by these tenant and cropper families is a two- or four-room shack, often roughly constructed and poorly ventilated, and in many cases unceiled. The homes are meagerly equipped with furniture. None have modern conveniences. The usual diet is very unbalanced, consisting chiefly of fat pork, cornbread, beans and peas, and a few canned fruits and vegetables. Many families do not keep a cow or chickens, and consume practically no dairy and poultry products. There is a minimum outlay for clothing. Very few families have an automobile. Many homes are without any kind of books, papers, or magazines. These bare, unequipped, uncultured homes are very depressing. They are not conducive to health, vigor, ambition, happiness, and a hopeful outlook on life.

TABLE 4. PER CENT OF FARMS REPORTING AUTOMOBILES, TELEPHONES, WATER PIPED INTO HOUSE, AND GAS OR ELECTRIC LIGHT, CENSUS 1920

Division	*Automobiles*	*Telephones*	*Piped Water*	*Gas or Electric Light*
United States	30.7	38.7	9.9	7.0
New England	25.7	51.4	47.8	15.3
Middle Atlantic	35.2	44.5	23.3	14.1
East North Central	47.3	62.6	12.4	10.4
West North Central ...	57.6	69.5	9.7	8.9
South Atlantic	16.2	14.2	3.3	3.9
South Central	7.8	18.7	1.5	2.0
West South Central ...	17.4	27.4	4.9	1.9
Mountain	37.6	25.6	10.7	10.3
Pacific	47.2	38.7	41.7	19.2

Causes of Low Farm Standard of Living. There are several reasons why standards of living on American farms have been relatively low. (1) The average farm income has been low. Farming has been the most highly competitive of all American industries. The supply of agricultural products has always been large and prices low. Our great agricultural development took place just when great agricultural expansion was taking place in other new countries like Australasia, Canada, Argentine, and South Africa. American agricultural products have had to meet the severe competition of cheap agricultural products in foreign markets. (2) Farmers have tended to use increased farm incomes to expand agricultural production, which in turn has brought increased production, lower prices, low incomes, and low standards of living. A great majority of American farmers in the past have had a mania for increasing the size of their farms. The farmers who have sold out to their neighbors have moved on to the frontier to take up new farms and increase the supply of agricultural products. There is little doubt that American farmers would receive better prices for their products and a higher income if they would spend more of their income on home comforts and conveniences, instead of reinvesting so much of their income in expanding their enterprise which acts as a boomerang upon prices and future income. (3) The persistence of old customs has helped keep the American farm standard of living low. Many American farm communities are less than a generation removed from pioneer conditions. Out on the frontier the farm family had to live under many hardships. Houses were poor and without comforts and conveniences; a balanced diet was not always available; standards of dress were very simple; means of transportation and communication were meager. Farm families became adjusted to these conditions, and even when they became more prosperous and could afford better conditions of living, they continued to live after the old customs. (4) The farm family has not had the many and varied trading contacts in which dazzling show windows and piles of variegated goods have created new desires and set up new standards of consumption. (5) As indicated above in this chapter, farm families have practiced thrift. Many farm families have had an aversion to spending. They have considered saving as the very highest virtue. (6) In the southern states the social heritage of previous conditions of slavery and servitude, poor schools and much ignorance, and large families and a tendency to overpopulation, are responsible for the very low standard of living among many white and negro farm families. A very low standard of living is usually accompanied by ignorance, poor schools, and a high birth rate. A high birth rate is followed by cheap human labor and a perpetuation of low standards of living.

The Battle of Standards. Much has been written about the effect of cheap immigrant labor on American wages and the standard of living. The standard of living of the American wage-earning family was kept low for many years by the competition of the newly arrived southeastern European immigrant, who, with his contentment with a very low standard of living, was willing to work for a cheap wage. The extreme bitterness against the Japanese on the Pacific Coast has come out of their competition with the whites in producing farm products and in renting and buying land. These Japanese farmers have been willing to work long hours, to use their women and children in the fields, to live in poor houses and on a simple diet, and to spend little for clothing and conveniences. While they have increased production and lowered prices, they have also saved more of their income to buy land. In the southern states there has been a silent conflict going on between low and higher standards of living. It has been the most deadly kind of competition, with the low standards of living winning out. The southern negro in his ignorance and low economic and social status, his contentment with a low standard of living and poverty, with a high birth rate, and low standards of child care and home life, has worked his wife and children in the field, swelled the production of cotton, and forced the white farmer to meet his sharp competition. As long as the negro remains ignorant and content with a low standard of living, his birth rate will go uncontrolled and the competition of cheap, ignorant numbers will force the standard of living of white farmers towards the same level. Nothing would help the farming population in the South so much as a rise in the level of intelligence and the standard of living of the negro farming population.

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CHAPTER III

AGRICULTURE AND THE PRICE ECONOMY

A. CHARACTERISTICS OF AGRICULTURE UNDER THE PRICE ECONOMY

Relation of Agriculture to the General Economy. Agriculture is one of many industries and occupations in the present complex economic order. As a phase of the general economy, agriculture is subject to many of the economic principles underlying other industries. But despite the similarities between agriculture and other industries, there are distinguishing peculiarities that set agriculture off from them. In order to understand the present agricultural economy, it is necessary first to understand the main features of the modern economic order. The outstanding characteristics of the present economic order are: (1) division of labor and specialization; (2) extensive use of machinery and mechanical power; (3) large-scale production; (4) exchange of products and the price system; (5) competition among producers and consumers; and (6) private ownership and control of wealth.

Division of Labor and Specialization. In general, men no longer produce what they consume, nor consume what they produce. In all the advanced nations of western civilization there is specialization among industries and within industries. The great fundamental industries of agriculture, mining, lumbering, manufacturing, trading, and transportation are specialized industries. Within each one of these industries there is also a high degree of specialization. In some manufacturing establishments may be found several hundred specialized processes. Agriculture is the least specialized of all the great industries, yet we find a wide range of specialization in this great industry in modern times. This specialization is by climates, countries, sections, soils, vicinities, individual farms, and processes on farms. In the tropics farmers grow sugar cane, bananas, cocoa, rubber, olives, and nuts; in the temperate climates they grow cereals, grass crops, and live stock. In the countries of northwestern Europe farmers raise potatoes, sugar beets, wheat, barley, and live stock; in Canada and Australia wheat is the main crop. In our northeastern states the chief agricultural products are potatoes, fruits, hay, and dairy and poultry products; in the South, cotton, tobacco, corn, and sweet potatoes; in the Middle West, corn, hogs, oats, and wheat; in the far West, sheep, cattle, apples, and berries. In the vicinity of large cities dairying and trucking predominate. Individual farmers in the same community tend to follow out specializations of their own. Often on the same farm the different workers engage in specialized processes.

However, there are peculiar conditions that set limits to specialization in agriculture. On almost every farm it is possible and profitable to grow several different kinds of products. The seasonal nature of most farm crops makes it advisable and economically advantageous for the farmer to distribute his labor on several crops throughout the year, so as to be better employed. Soil conservation and improvement in many sections demand a diversity and rotation of crops and the keeping of live stock. Distance from the market, together with spare time, makes it economical for the farm family to produce for its own consumption such products as vegetables, fruits, and live stock products. Studies made by the U. S. Department of Agriculture in a number of representative localities in the United States show farmers producing from 30 to 40 per cent of the total cost of their living. Also the farmer engages in many different kinds of work on his farm, ranging from the doing of chores to the routine of planting and harvesting his main crop.

Use of Machinery and Mechanical Power. Modern industrial society is characterized by the wide use of machinery and mechanical power. The chief sources of natural power are coal, oil, wood, the wind, and water flows. Thousands of different kinds of machines are used in the production of goods. The productive capacity of society has been tremendously increased. Horses, cattle, burros, and mules have long since been used to supply power in agriculture. Lately the stationary gas engine, electricity, tractors, and trucks have come into wide use on the farm. The list of machines used in American agriculture today is a long one, including the binder and the combine, the wheat drill, the corn planter, the corn harvester, the mower, the rake, the baler, the potato digger, the manure spreader, the gang plow, cultivators and harrows of all kinds, the sprayer, the milking machine, and many other machines and implements of less significance.

The superior productivity of American agriculture per agricultural worker is due in a large measure to the extensive use of machinery and natural power. On the other hand there is still a large amount of agricultural work that cannot be done by machinery, but must be done by hand. In cotton production most of the work is still hand work—hoeing and picking. Tobacco culture requires a large amount of hand work in the way of transplanting, hoeing, worming, cutting, stripping, and curing. Sugar beets require much stooping hand work. The greater part of truck farming is hand work.

Large-scale Production. Since the Industrial Revolution there has been a tendency towards larger and larger units of production. The little home handicraft workshops have been supplanted by large factories. In many lines of production dozens of factories have been brought under a single control and management, and operated as one unit. The corporation, consisting of many stockholders, has come to be the most common unit of industrial organization. The average amount of capital and the number of workers per corporation have steadily increased. The output per unit has greatly increased. In 1919 more than 80 per cent of all wage earners were employed in industries using more than 50 men per establishment, and over 70 per cent in industries using over 100 men per establishment.

Agriculture differs most radically from the other great industries in the size of the unit of production. Farming has remained a small-scale industry. The average amount of capital per farm unit is small. In 1920 less than 4 per cent of American farms contained over 500 acres, while farms of less than 100 acres constituted nearly 50 per cent of all farms, and farms of less than 175 acres over 80 per cent of all farms. Less than 40 per cent of all farms reported hired laborers. Most of the work on the American farm is still done by the farmer and the members of his own family. Agriculture remains to a large extent a small-sized family industry. There are several reasons why agriculture remains a small-scale industry. The large area that must be covered in agriculture prevents effective management and supervision on a large scale. The great diversity of crops and enterprises make it impossible to reduce agricultural processes to the routine that is a necessary feature of large-scale industry.

Exchange and Price. The division of labor and specialization have necessitated the exchange of products. With millions of producers engaged in the production of many different kinds of goods, and millions of consumers demanding a great variety of goods, it is necessary to have an elaborate system of exchange in modern society. Markets, trade, commerce, railroads, banks, storage warehouses, produce exchanges, wholesale and retail stores, buying and selling, and speculation are all component parts of this elaborate exchange system. So dependent upon this exchange system has modern society become, that it could exist for only a short while if the exchange system were suddenly destroyed. Producers can find a sale for their products, and consumers can have their wants satisfied, only through this exchange system.

This exchange of goods for money has brought the price system. Goods bought and sold on the market are measured or valued in terms of money. Price is the value of a product expressed in terms of money. In the modern exchange economy, economic activities revolve around price. All goods can be exchanged for a price, or money. Services are exchanged for a price. Indeed, the primary objective of most economic activities is money. Practically every human want can be satisfied with money. People have become price-minded. They value the goods and the services that they buy and sell in terms of money, or price. The modern farmer who sells most of what he produces and buys most of what he consumes must think of his economic possessions and activities in terms of price. The chief measure of his land, his livestock, his implements, his labor, and his crops is their money value, or price. In planning his farm enterprises and his cropping system, the farmer must think in terms of price. Well can we say that the modern farmer has become price-minded.

Competition. In modern industrial society ecoomic goods and services are bought and sold under competitive conditions. Thousands of producers of the same product offer their goods on the market as individuals; and thousands of consumers of the same commodity purchase in the market as individuals. In most cases there is no agreement between producers on the price for which they will offer their products for sale; neither is there agreement between consumers on the price they will pay for the products they buy. This individual selling and buying leads to competition in the markets. There is a struggle between producers to dispose of all their products on the market; there is a struggle among consumers to have all their wants satisfied.

Particularly do farmers produce and sell under competitive conditions. In the United States there are more than two and a quarter million farmers producing wheat, nearly five million producing corn, nearly three million producing potatoes, and over two million producing cotton. Each farmer wishes to sell all that he has produced for the market. For the most part farmers still sell as individuals, in competition with one another. In case of most of the farmers' cooperative organizations, they sell in competition with one another. Only a few of the cooperative organizations have control of any considerable part of the entire product that is sold on the market. Farming is without doubt one of the most competitive of all industries.

Monopolies. In our modern industrial economy most goods are bought and sold in a competitive market. However, some goods are sold and bought under monopoly conditions. Monopoly means the control of the supply of any product, or the greater part of it, offered for sale in any given market. Control of supply virtually gives sellers control of the price at which goods are sold. Monopoly control of a product may be effected in several different ways. Private individuals, or firms operating as individual units of industry, may agree to limit the output of their goods, or to fix prices. Another method is to bring the producing units under single possession or control. Such combinations are generally called "trusts." Governments may grant exclusive monopoly privileges to individuals or corporations, but usually with the understanding that the government will control prices, except in the case of patents.

In fixing prices for their products monopolies set the price at a level that will yield the greatest maximum return above the costs of production. The price is fixed at what "the traffic will bear." If a low price will yield a higher net return than a high price, the monopoly will set the low price, and vice versa. To secure the greatest net return a monopoly will often divide customers into several classes, and charge different prices for practically the same products, slightly differently packaged or wrapped. Sometimes monopolies maintain different prices for the same product in different sections or countries, following out the principle of charging what the traffic will bear. Monopoly influences on prices are limited by the demand of consumers, by potential competition, if the price of products becomes too high, by possible substitutions for the monopolized product, and by government control through anti-trust laws.

Because of the large number of producers of most agricultural products, few monopolies in agricultural output have been established in the United States. Around a few big cities farmers' cooperative organizations have been able to secure control for a short while of the greater part of the milk supply and to set the price of milk. The California raisin growers have had almost entire control over the raisin supply in the United States at times. But in the great staple products of wheat, corn, hogs, cattle, butter, eggs, potatoes, cotton, apples, peaches, and other fruits, the farmers of the United States have never been able to bring any large percentage of output under single control, and to effect monopoly prices. The great number of producers of the staple agricultural products and the reluctance of these producers to unite into selling organizations have made monopoly control of agricultural staples impossible.

Price the Regulator of Production. In the modern individualistic competitive economy, price is the regulator of production. When prices rise production increases; when prices fall production decreases. During the late war a great demand arose in Europe for wheat. The price of wheat rose to a high mark. Farmers in the United States, Canada, Australia, and Argentine increased the wheat acreage tremendously in response to the increased demand and the high price. After the war the European countries began to produce more of their own wheat. Their industries and currencies became so deranged, that their purchasing power greatly diminished. The demand for wheat decreased and the price fell. Thousands of farmers found themselves losing money producing wheat, because it was costing them more to produce wheat than they were receiving for it. The result was that many farmers had to quit producing wheat or cut their acreage in wheat, and turn to the production of other products. Price, therefore, is the barometer that farmers watch in planning their enterprises. Price becomes the regulator of production.

The Factors of Production. The primary motive of economic activity is to gain wealth. In the modern economic order, the getting of wealth is largely a roundabout process, involving a number of steps and factors. The older economists have made four divisions of the factors of production—land, capital, labor, and management. They have applied the term *land* to those more or less natural elements such as soil, climate, rainfall, water power, ores and minerals, and topography. They have used the term *capital* to cover those more or less artificial goods shaped and created by the hand of man to aid in production, such as tools, machines, and buildings. They have distinguished between labor and management by including under the former those human efforts that aid in the production of economic goods; and in the latter those efforts concerned with the organization and direction of the factors of production.

In our treatment of the factors of production, we do not believe the old distinction between land and capital a good one, because all natural objects used by man in production must be artificially formed in some degree. Land cannot be used for production till it is cleared and much labor sunk into it to make it suitable for production. Nature and man's efforts have become so blended in the land in old agricultural countries that it is almost impossible to distinguish what is due to nature and what to man's efforts. On the other hand, live stock which are included in the class of artificial capital have many natural qualities, despite man's years of artificial breeding.

From the point of view of the individual farmer or the farming class, production means the getting of wealth. This being the case, there are many more factors than land, capital, labor, and management (the factors of production of the older economists), involved in production. According to the analysis of this book, any factors influencing the wealth-getting of the farming class are factors in agricultural production, and their bearing on the agricultural economic process must be considered. Our list of factors in agricultural production includes land, land tenure customs, farm machinery, live stock, buildings, farm insurance, farm credit, farm labor, farm management, the farm-marketing system, transportation facilities, taxation and tariffs, price cycles, organized farmer movements, agricultural education, accumulated agricultural knowledge and skill, state promotion of agriculture, accumulated farm wealth and income, and farmers' standards of living. These we conceive to be the factors influencing agricultural production.

B. Price-making Forces in the Agricultural Economy

Price the Interaction of Demand and Supply. Prices in the modern exchange economy are the result of the interaction of demand and supply. Demand is the amount of goods that purchasers will buy in a given market at a given price. Supply is the amount of goods offered for sale in a given market at a given price. Demand and Supply, like the two blades of scissors in cutting, are equally important in determining prices. They are complementary, and interact upon each other. Every student knows from his own observations and experiences that when a given product is scare the price of it is high, and when abundant the price of it is low. Time and again farmers have received larger sums of money for small crops of wheat, corn, and cotton than for large crops. So it is said that prices are determined by demand and supply. In a general way this is true, and the fundamental law of demand and supply may be stated as follows: *Prices vary directly with demand and inversely with supply.* But neither demand nor supply is a simple economic phenomenon. Both are very complex, and require thorough analysis on the part of the economist. A large number of factors influence both demand and supply in the case of any given product.

While we may make a classification and separation of the different factors affecting price on both the demand and on the supply side, it must not be thought that any one of the factors on either the demand or supply side always acts separately and independently in the price-making process. Very often several factors are so intimately bound up with one another or influence one another so directly, that it is impossible to show the relative influence of any one factor. Only by the most difficult and refined statistical methods can the exact quantitative influence of any single factor in demand or supply be even approximately measured. In our analysis we attempt only to point out that different factors have more or less influence in making the prices of agricultural products. Another great difficulty is that these factors are always in a state of flux, never remaining the same for any great length of time. However, in our analysis, when the influence of any one factor in either the demand or supply side is being considered, it is assumed that all other factors on both the demand and supply side remain the same. Obviously this situation rarely holds and to that extent our analysis is an abstraction, showing what happens under assumed conditions rather than real conditions of the market. But such an analysis under assumed conditions will help the student in understanding price-making factors.

Analysis of Demand. (1) The number of consumers is one of the first factors to be considered in demand. An increase in the consuming population creates a demand for agricultural products. We have already shown how the increase of industrial and urban population in northwestern Europe and the northeastern section of the United States stimulated a demand for American agricultural products. These fast growing industrial populations were the primary cause of the relatively high prices of agricultural products from 1900 to 1914.

(2) Purchasing power of consumers is even more essential than numbers in creating demand for agricultural products. China, Japan, and India have large populations that have a very great potential consuming power. The people of these countries could consume much larger amounts of agricultural products grown in the United States and Canada but for their limited purchasing power. One people can buy products from another only when it has products to exchange for the products it wishes to buy. The per capita production of oriental countries is very small and the people of these countries can buy our agricultural products only in limited amounts, because of their very low purchasing power. On the other hand the per capita producing power of the industrial population of

western Europe and eastern United States is very high, which gives these populations a high purchasing power, which in turn creates a big demand for agricultural products. When the industries in these sections are in a prosperous condition and running full time, the demand for agricultural products is brisk and the prices tend towards a high level. Slackened production, unemployment, prolonged strikes, financial depressions, depreciated currencies, and political disturbances decrease the purchasing power of industrial populations and reduce the demand for agricultural products, and consequently the price.

(3) Habits of consumption affect the demand for agricultural products. The Jewish people of New York City have long had the habit of consuming white eggs. Though brown eggs are just as good as white eggs, these people will pay a few cents more a dozen for white eggs than brown eggs. On the other hand, certain classes of consumers in Boston prefer brown eggs and will pay a slightly higher price for them than white eggs. The consumers of sweet potatoes in the northeastern part of the United States first got their supply of sweet potatoes from New Jersey, where a rather dry, mealy sweet potato was raised. When southern farmers began to ship a juicy and much more delicious sweet potato into the northeastern markets, they found the consumers in these markets prejudiced against the southern juicy potato and demanding the dry mealy potato of the New Jersey type. Herkimer County, New York, early became famous for its fine cheeses, and consumers associated the name *Herkimer* with good qualities in cheese. When the cheese industry spread to other counties in New York, the producers found difficulty in disposing of their cheese at prices paid for Herkimer cheese, though the quality was just as good.

The new producers in other New York counties solved the problem by labeling their cheese Herkimer cheese also. All consumers have their peculiar consumption habits. These habits spread by imitation and are passed on from generation to generation by association. These habits are an important factor in creating demand for agricultural products, and in that way influence the price of products.

(4) Attractiveness and convenience are important elements in consumers' demands. Consumers are attracted by good-looking products. They desire products in convenient packages and ready usable forms. Many of the farmers' cooperative marketing organizations have been able to increase the sale of their products greatly by putting them up in attractive forms and in convenient packages. The California citrus fruit growers have long carried on a campaign among the retailers of their fruits to get them to make their fruit attractive to consumers. The California raisin growers have packaged their raisins in several sizes of boxes to appeal to as many classes of consumers as possible. Consumers in their purchases are always choosing between different qualities or grades of the same product, or between several different products. In making their choices they are influenced very much by the attractiveness and convenience of the products. The demand for, and therefore the price of, any given agricultural product is materially influenced by its attractiveness and convenience for use.

(5) Advertising and salesmanship stimulate the demand for any given agricultural product, and thereby influence the price of the product. Intensive milk-consumption campaigns in big cities have demonstrated that the per capita consumption of milk can be greatly increased by advertising and publicity. The growers of citrus

fruits, raisins, walnuts, prunes, and cranberries have had outstanding success in increasing the consumption of their products by advertising. The citrus fruit growers say that while the population of the United States has increased 60 per cent in the last two decades, the consumption of oranges has increased 500 per cent, and they believe that this great increase in consumption has been due largely to advertising. The raisin growers have spent as much as two and one-half million dollars a year in advertising raisins to increase consumption, and they believe advantageously. Advertising and publicity increase consumption by inducing new consumers to buy the product or old consumers to buy more of it. Appeals to consumers are made on the bases of good health, whims and prejudices, new uses, and quality of the product. The means of advertising and publicity are through national magazines, newspapers, posters, sign boards, window displays, brands, recipe books, moving pictures, and demonstrations.

Salesmanship is closely related to advertising and helps increase the demand for goods. Some farmers' cooperative organizations have increased the demand for their products by effective sales organization and methods of selling. Though advertising and salesmanship may help to increase the demand for any given product, it must not be assumed that the demand for *all* farm products can be greatly increased by these methods. When consumers are persuaded by advertising and effective salesmanship to purchase more of one product they will buy less of others.

(6) Elasticity of consumption affects the demand and the price of agricultural products. The per capita consumption of such staple products as wheat, potatoes, pork, cotton, and tobacco is fairly constant, making an inelastic

demand for these products, and causing prices to rise to a high level when they are scarce and to drop to a low level when they are abundant. On the other hand the per capita consumption of such products as apples, oranges, berries, cantaloupes, and honey is variable, and the demand for these products is governed to a large extent by their price. As the standard of living rises and people are educated to increase the range of their diet by including in it more dairy products, green vegetables, and fruits, an inelastic demand is created for these products, and they become subject to the law of the price of staple products.

(7) Competing products affect the demand for any given agricultural product, and thereby the price. The per capita consumption of wheat in the United States has been falling, while the per capita consumption of vegetables and dairy products has been growing. The per capita consumption of apples has decreased, while the per capita consumption of oranges, grapefruit, and bananas has increased. A decrease in the consumption of beef has been accompanied by an increase in the consumption of veal. A decrease in the consumption of animal fats may be accompanied by an increase in the consumption of vegetable fats. The grain crops compete with one another and affect the demand and the price of each other. A big cotton crop, furnishing a large supply of cotton seed meal, will cause a decrease in the demand and the price of the commercial grain feeds.

Analysis of Supply. (1) Weather conditions are perhaps the most important factor influencing the supply and the price of agricultural products. A late cold spring in the southern states cuts the cotton crop several million bales and sends the price of cotton up. A few hours of rain over the corn belt in August may increase the corn crop millions of bushels and depress the price, whereas a few days of hot winds at this season may decrease the crop millions of bushels and force the price up. Late spring freezes in the fruit areas, killing most of the fruits, make the prices of fruits high. Winter freezes in Florida and southern California decrease the supply of citrus fruits and force the price of these fruits up. In no other line of production is there such a close relation between weather conditions and supply, and therefore price, as in agriculture.

(2) Pests, insects, and animal diseases affect the supply and the price of agricultural products. The Biblical story of the locusts in Egypt shows how whole tribes of people may have their food supply taken away by the ravages of insects. Early pioneers of the western wheat belt recall the years when grasshoppers practically destroyed their whole wheat crop. The boll weevil in the South has often reduced the cotton crop hundreds of thousands of bales. The coddling moth decreases the supply of apples in the United States millions of bushels. Hog cholera epidemics and the foot-and-mouth disease among cattle reduce the supply of meat and dairy products, and thereby increase the prices of these products.

(3) The opening of new territories of production is always an important factor influencing the supply and price of any agricultural product. The agricultural expansion into the Middle West and the Northwest from 1860-1890 brought a tremendous increase in the supply of wheat, corn, hogs, and cattle, and a great fall in the price of these products in American and European markets. The expansion of the wheat acreage in Australia, Argentine, Canada, and South Africa in recent times has tended to depress the price of wheat in the world import

markets. Following the late war the cotton acreage was extended greatly in the southern states, particularly in Texas and Oklahoma, with the result that by 1926 a stage of overproduction had been reached and prices had fallen to a low level. The potential expansion of wheat production over millions of acres of new lands in Canada and Argentine has led some agriculturists to predict low prices for wheat during the next twenty or thirty years.

(4) Scientific production has become an important factor influencing the supply of farm products. The agricultural colleges and high schools, the experiment stations, the state and national departments of agriculture, county agricultural agents, the agricultural agents of railroads and other corporations, boys' and girls' clubs, and the farm press stimulate agricultural production. It has been said that one professor in the Agricultural College of Iowa was responsible for increasing the corn crop in that state millions of bushels. The College of Agriculture in Wisconsin was responsible to a large degree for the growth of the dairy industry in that state. The large poultry industry of western Washington was greatly influenced by the Washington State College of Agriculture. We may expect the supply of agricultural products in the future to be increased by scientific methods of agriculture, and this increased supply to influence the prices of farm products more than ever before.

(5) New inventions have a great influence on the supply of agricultural products. The invention of the cotton gin in 1796 caused a rapid expansion of cotton production over the South from 1800 to 1860. The invention of the thresher, the binder, and the combine increased the wheat supply tremendously. The invention of the corn planter, the corn harvester, and the shredder helped in-

crease the supply of corn greatly. The discovery of packing and refrigeration processes has increased the market supply of meats, eggs, poultry, and fruits. To the extent that all these inventions have increased the supply of farm products, they have been price-influencing factors.

(6) Cost of production is the biggest factor controlling the supply of any agricultural product, and its price, over a long period of time. If the price of any agricultural product becomes unusually high, more farmers begin to raise this product, and the supply of it is increased. The increased supply tends to bring down the price. As the price falls below the cost of producing it, the farmers whose costs of production are highest cease producing. The supply decreases and the price goes up. Such shifts in production were clearly seen in wheat and cotton in the United States during and after the World War. At all times there is a shift back and forth in the supply and price of agricultural products in adjustment to cost of production. The length of the cycle of adjustment for each agricultural product varies with the ease and difficulty of expanding and contracting the acreage.

(7) Tariffs on foreign imports limit the supply of products on the domestic market and raise the price of these products. The United States, Germany, France, Italy, and most of the small nations of Europe have tariffs on imported agricultural products that compete with home-grown products. Tariffs affect prices only if the domestic supply is somewhat less than domestic consumption. Tariffs do not affect the price of those products a part of which must be exported. In the United States a tariff on wool and sugar is effective, because a part of the domestic supply of these products must be imported; but a tariff on wheat, corn, and most meat products is not

effective, because a part of these products is exported.

Evidence of Inverse Relation Between Supply and Price. Figures 2-6 on pages 79-81 show the inverse relation between the supply and the price of several important agricultural products. The student should study these charts carefully. Figure 2 shows the relation between world wheat production and the Chicago price from 1890 to 1914. The figure shows production and price in inverse relation most of the time throughout the period, the price falling as the production rose. Figures 3, 4, 5, and 6 for cotton, corn, oats, and hogs respectively show the same general tendency towards an inverse relation between supply and price.

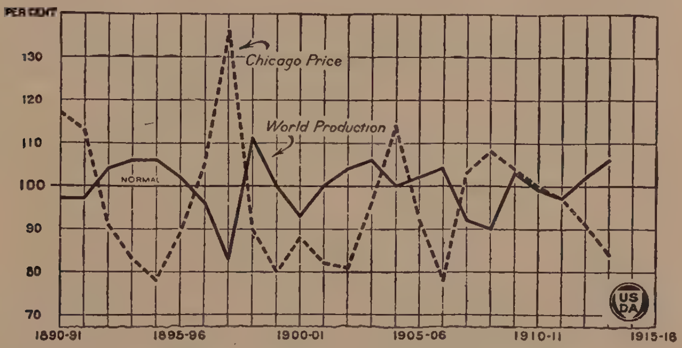

FIG. 2.—World wheat production and the Chicago price, 1890-91 to 1913-14. (*Agriculture Yearbook*, 1923, p. 98.)

The reason for this inverse relation between supply and price is obvious. Each individual producer of a product wishes to sell all of his product. Knowing that there is a large supply of the product to be disposed of on the market, each individual producer becomes anxious to sell as much of his own product as soon as possible, lest the price of the product go lower, or lest he be left with a part or all of his product, which he cannot sell at a profitable price. On the other hand, buyers and consumers, knowing that the supply of the product is large and that producers wish to sell all of their product, buy reluctantly and

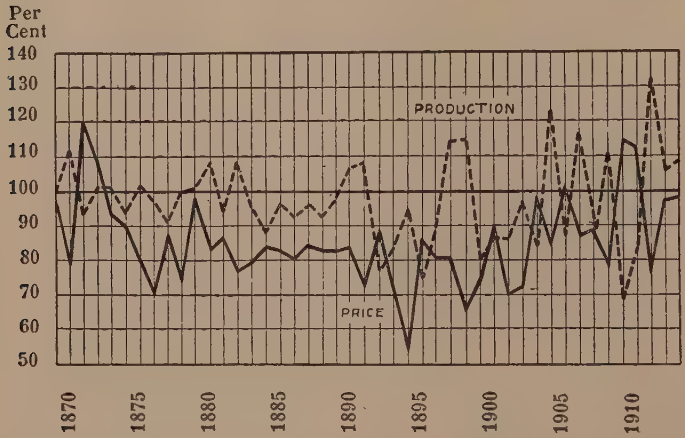

FIG. 3.—Production of cotton and prices, 1869-1913. (*Ala. Exp. Sta. Cir. 91.*)

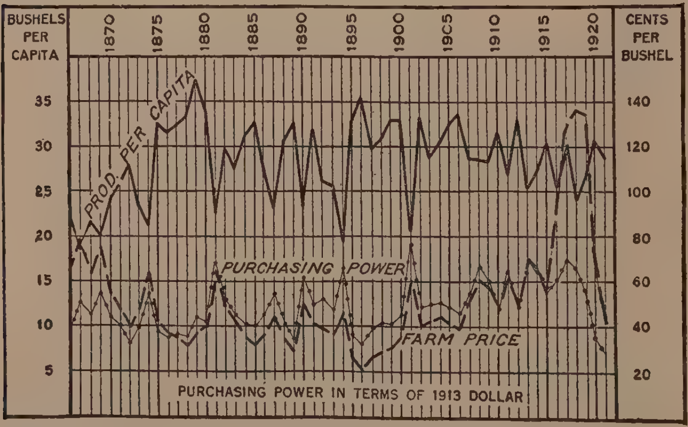

FIG. 4.—Corn production per capita and purchasing power at farm prices, 1866-1921. (*Agriculture Yearbook*, 1921, p. 222.)

wait to see if the price of the product will not go lower. Thus the price of the product is depressed.

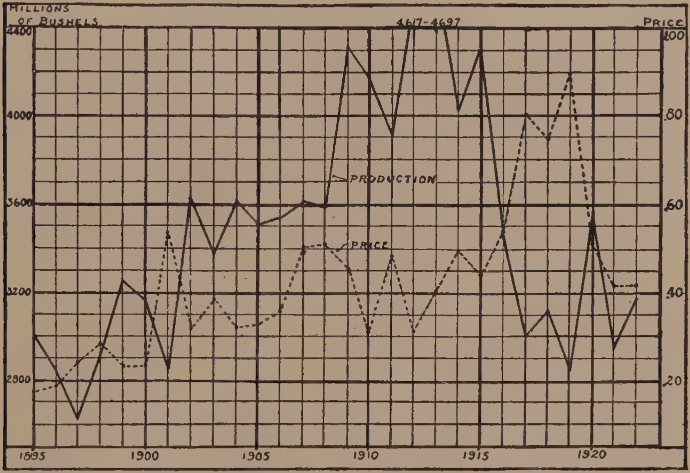

FIG. 5.—World production of oats and Chicago price of No. 2 White Oats, 1895-1922. (*Neb. Exp. Sta. Bul. 198,* p. 24.)

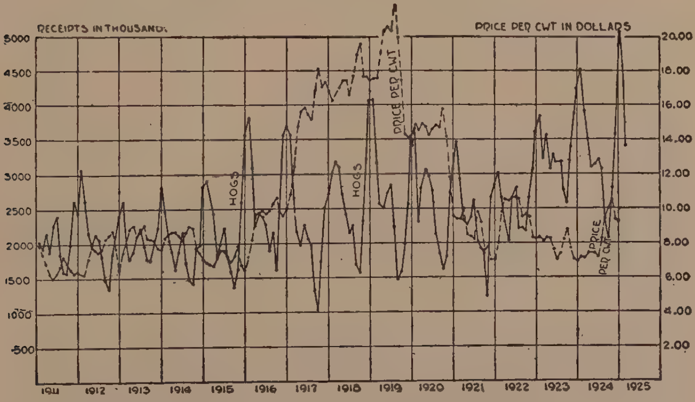

FIG. 6.—Receipts of hogs at 11 markets and average price of hogs at Chicago, 1911-1924. (*Neb. Exp. Sta. Bul. 208.*)

When the supply of the product is small the situation is reversed. Producers know the product is scarce. They know that consumers must have the product. Consumers, knowing that the supply of the product is limited and wishing to have their wants fully satisfied, buy readily. If the product is very scarce, the consumers become quite anxious to have their needs supplied at once, lest the price of the product become much higher, or lest they be unable to supply their needs at all. Producers, knowing that consumers are anxious to buy, tend to hold back their product from the market, believing that the price will go higher. Consumers must bid higher to get as much of the product as they wish. Thus the price of the product is forced up.

Derived Prices. The above analysis of agricultural prices and price-making forces has been concerned chiefly with those farm products ready or nearly ready for consumption, such as wheat, corn, cotton, hogs, potatoes, fruits, and dairy and poultry products. Products of this kind are called consumers' goods. The demand for these products for more or less immediate consumption makes consumers willing to pay a price for them. The price paid for these products is primary, or original. But those factors like land, work-stock, machinery, barns, fences, fertilizer, and labor, used in the production of consumers' goods, and not used in immediate consumption, also have their prices. They are producers' goods and services, bought and sold in the market, and their prices are derived prices. These producers' goods command a price because they help in the production of consumers' goods for which consumers pay a price. Land, work-stock, machinery, and labor command a price because the corn, wheat, cotton, and other products they help produce can be sold for a price. If the prices of these primary consumption products are high, the prices of production goods will be high. When a farmer buys an additional piece of land he expects to sell the products grown on the land at a certain price. The price that he pays per acre for the land is a reflection from the price that he expects to get for the products sold from the land. When a farmer employs laborers, the price he pays for their labor is determined by what he expects to get for the products that the laborers help produce. Producers' goods command a price because the consumers' goods they help produce command a price.

Farmers' Control of Prices. Farmers usually feel that they have no control over the prices they get for their products. They believe that they simply have to take what buyers offer them. There are several reasons why farmers have so little control over the prices of the products they sell. In the first place there are usually thousands, hundreds of thousands, or even millions of individual, unorganized producers of the different farm products. Each farmer produces however much he wishes. Each farmer, or group of farmers, sells in competition with other farmers or other groups of farmers. These uncoordinated efforts in producing and selling make it impossible for farmers to control the supply of their products on the market. Again, if farmers consciously try to limit production as a group, it very often turns out that production is increased. Many farmers, believing that all other farmers are decreasing their acreage, that a scarcity of the product will cause high prices, increase their acreage, hoping to gain individually by the general reduction. The result is a general increase in production and low prices, though the aim of the group was decreased production and higher prices. As long as there are millions of uncoordinated producers of a product, with no control over the amount each individual produces, it will be practically impossible for farmers to control the supply, and therefore the price, of their products.

Another factor that has influenced agricultural production and prevented farmers from having very much control over the price of agricultural products has been the high rural birth rate. Each generation there has been a large number of new farmers going into farming, increasing agricultural production, and making farming one of the most competitive of all industries. A high birth rate in any class of people always makes the services and goods produced by that class plentiful and cheap, because so many children follow the occupation of their parents. And finally in the United States, until the last decade, it has been easy for young men to enter the occupation of agriculture. Land was abundant and cheap and little other capital was required to begin farming. The supply of agricultural products tended to outstrip the demand for them. The result was low prices for farm products. By far the most effective way to increase the price of agricultural products is to make them scarce. This is one of the simplest principles in economics. However, the principle is a very difficult one to apply in an industry like agriculture in which there are so many individual producers and sellers.

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CHAPTER IV

LAND AS A FACTOR IN AGRICULTURAL PRODUCTION

A. General Economic Aspects of Land

Importance of Land in Agriculture. While all industries are ultimately dependent on land, agriculture is primarily a land industry. By far the greatest part of the value of farm property is in land. According to the Census of 1920, the average value per farm of all farm property was $12,084, while the average value per farm of land alone was $8,503, or more than two-thirds of the value of all farm property. Land determines the type of agricultural production in any section or community. The supply of land is one of the biggest factors determining the prices of agricultural products. Because of its immobility and natural characteristics, land sets the most definite limits to agricultural production in any section.

Land Differentiated. Land includes not only the surface of the earth, but also what is below and above the surface,—soil ingredients, minerals, rainfall, and temperature. Ricardo, the great classical English economist, defined land as "the original and indestructible powers of the soil." Most economists since his time have followed his concept of land as the original and permanent state of nature. For purposes of economic analysis these economists have put land in a category by itself. They have treated land as a separate factor of production, quite distinct from capital or producers' goods, because land is a natural product, while capital goods are artificial products. Their contention is that land has certain peculiarities and follows certain laws of price that are peculiar to land alone. In our analysis, however, we believe that land has so many things in common with other economic goods that it is better to regard land as one form of capital, and not as a separate factor of production falling outside of the general category of capital. We believe that the most characteristic thing about land in our present agricultural economy is that it is thought of in terms of value or price, and that on the whole it follows the general laws of price. Our conception of land, then, is that it is simply one form of capital.

Land Partly Artificial. On every farm and in every agricultural community much human effort has been put into modifying the original state of the land. Trees have been cut down, stumps and rocks cleared away, wet lands drained, dry lands irrigated, fertility added, and the soil fitted to the growing of special crops. Some lands owe most of their value to their highly artificial improvements. In old countries the natural and the artificial aspects of land have become so fused that it is impossible to distinguish between them. The drained lands about the Zuider Zee in Holland and the terraced vineyards along the Rhine in Germany must be regarded, from an economic point of view, as having been almost entirely artificially created. The same is true of many swamp and desert lands in the United States. In western Washington and Oregon, where huge forest trees have stood, the value of farming land is just about the cost of clearing it of stumps. It has been said that four-fifths of the value of the long-cultivated estates of England have been artificially created. As the farmers of a community become more scientific in their treatment of the soil, crop rotation, and stocking, their land takes on a more artificial nature. Improvements on the land become inseparable from the land itself.

When farm land is sold it includes the fences, buildings, and all other improvements on the land. They are considered as essentially a part of the land. All this intermingling of the natural and artificial elements in farm lands shows the extreme difficulty in trying to treat land as a natural factor in agricultural production as distinct from artificial factors. Agricultural lands always include more or less of artificial improvements.

Economic Characteristics of Land. Though it is not possible to make an absolute distinction between land and artificial factors of production, there are peculiar economic characteristics of land that grow out of its relatively high natural state.[1] The differences between land and the more artificial factors of production are chiefly differences in degree rather than in kind. (1) Land is decidedly limited in supply. Men can increase the supply of land very little. The amount has been fixed by nature. Houses, factories, machines, and manufactured goods can be increased almost indefinitely as civilization advances, and usually at decreasing costs per units added. Little in the way of additional units can be added to the natural supply of land and such units as are added must be at increasing costs.

(2) There are many gradations in the quality of land. There is an almost infinite number of grades of land, due to differences in fertility and texture, rainfall, temperature, and length of growing seasons. These grades of land vary from barren, rainless deserts to rich alluvial

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[1] See Ely and Morehouse, *Elements of Land Economics,* Ch. II.

lands, favored with the best rainfall and climate. Nature has set rather sharp limitations to what man can do to change the grades of land. Artificial goods can be made to order and highly standardized. Binders, mowers, plows, trucks and other producers' goods can be turned out by the millions in units of exactly the same kind. But rarely can one find two pieces of land exactly alike.

(3) Land is much more durable than other forms of capital. While the fertility of land can be taken away by washing, floods, and bad cropping methods, it can usually be restored. Nature helps to restore the land. In a sense there are "original and indestructible powers" in the soil. If land is properly cultivated there is no need for the owner to set aside a depreciation fund to keep it in repair as he does to keep his machinery and buildings in repair.

(4) Land is fixed in its location. It must be used where it has been built up by nature. Artificial goods can be manufactured in one section and used in another, but land cannot be shipped from one section to another for use. Men have a relatively wide range of choice in the location of manufacturing industries. Plants can be moved from one place to another. But land must be farmed where nature has placed it.

(5) Land is peculiarly subject to diminishing returns. Every farmer knows that beyond a certain point, the application of additional units of capital and labor to a given piece of land brings decreasing returns per unit of capital and labor applied. It is this fact of diminishing returns that makes most of our land problems. If there were no limit to the amount of products that can be grown on a given piece of land, the limited supply of land would never cause any grave concern.

The Economic Capacity and Efficiency of Land. Land varies in economic capacity and economic efficiency.[2] The economic capacity of land is measured by the amount of the units of labor and capital that can be applied to it with optimum results. Some lands have very great economic capacity. They can be profitably farmed under very intensive methods. They can be made to produce large amounts of products. Other lands have very small economic capacity. They cannot be made to yield large returns. Where the economic capacity of land is low, extensive agriculture is followed. The economic capacity of land is determined by a large number of factors such as fertility of soil, climatic conditions, topography, adaptability to different kinds of products, knowledge of how to use it, and location with reference to markets. The number of people who can gain a livelihood from land is determined by its economic capacity.

The economic efficiency of land is the return per unit of labor and capital invested in it. While the economic capacity of land is measured in terms of input per acre, the economic efficiency of land is measured in terms of output per unit of input. It is important to note this distinction between the economic capacity and the economic efficiency of land. Some people believe that the aim in agricultural production should be the greatest yield per acre, that the land should be worked to its full capacity by the heavy expenditure of capital and labor upon it. But such intensive cultivation may not be the most profitable type of cultivation, because the input per unit of output is too great, and little or no margin of profit is left. The major concern of the individual farmer is the economic efficiency of the land—the greatest return for the least expenditure of capital and labor.

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[2] Taylor, *Outlines of Agricultural Economics,* pp. 96-102.

Every piece of land and every farm have their economic capacity and their economic efficiency. These two qualities together determine the economic productivity of the land—the total net return. In the purchase of farm lands the investor needs to estimate both the economic capacity and the economic efficiency of the land. We may illustrate as follows: A farmer has the choice of buying two 160-acre tracts of land. The economic capacity of one is 3,200 bushels of wheat; the capacity of the other 2,400 bushels. But the economic efficiency of the first is 40 cents a bushel and of the second 60 cents a bushel. The economic productivity of the first farm would be $1,280 and of the second $1,440. Therefore he should buy the second farm.

Intensity of Cultivation. Land is extensively or intensively cultivated, according to the available supply of land and the demand for agricultural products. Primitive peoples, who know little of the art and science of agriculture, and who depend largely upon hunting for their food supply, range over wide areas of land. Pastoral peoples require considerable areas of land, though much less than hunting peoples. Peoples who have a settled agricultural life can get along with a relatively small number of acres per capita as compared with hunting and pastoral peoples. In frontier communities the extensive types of agriculture are usually followed. As the farm population increases and industrial centers grow, intensive types of agriculture develop. One of the biggest factors determining intensity of culture is the consuming population of urban centers and urban areas. Close about cities is the intensive trucking zone, further out the dairying zone, still further out the zone of staple grains, and finally the grazing zone.

The intensity of culture is also determined by the kind of crops grown and the extent to which machinery can be used in cultivation and harvesting. Small-grain farming in the United States is an extensive type of farming, because most of the work can be done by machinery and large areas can be farmed. In cotton and tobacco farming little machinery can be used and intensive cultivation must be practiced.

Classes of Agricultural Lands. There are very many types of agricultural lands. Professor Ely and his associates in the *Institute of Land Economics* have made the following classification, which is perhaps as good as can be found for our purposes:[3]

- A. Arid Land
    - 1. Irrigable
    - 2. Non-irrigable
        - Timber
        - Grazing
        - Dry Farming
        - Desert
- B. Humid Land
    - 1. Natural appropriation
        - (a) Forest and pasture
        - (b) Swamps for rice, hay, cranberries
    - 2. Cultivated
        - Farm
        - Garden
        - Forest

Within the above classification are to be found many different types of soils, varying greatly in texture, fertility, topography, and moisture.

Order of Use of Agricultural Lands. Land for agricultural purposes is utilized in the order of its economic productivity. Different kinds of land are used in the order in which they yield the biggest net return per units of labor and capital expended in bringing them into cultivation. The early settlers in a new region select those pieces of land that they think will give them the greatest returns for their efforts in clearing and cultivating. Sometimes the least fertile lands in the new region are occupied first, because of the small amount of work required to bring them into cultivation. Often the most fertile lands are covered with heavy timber or need draining and they are passed up for less fertile lands. Other things being equal, however, the most economically productive lands are occupied first, and as population and the demand for agricultural products increase the less productive lands are brought into cultivation. The order of utilization is also influenced by the growth of the science and technology of agriculture. New scientific methods make possible the profitable use of lands not formerly used for agriculture. The sandhill region of the central Carolinas was for many years thought to be practically worthless for agriculture, but in the last two decades new methods of using this land have been discovered and much of it brought into a high state of cultivation.

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[3] Ely and Morehouse, *Elements of Land Economics*, p. 30.

In the old agricultural countries, where the demand for agricultural products is growing, the margin of cultivation is pushed out into the poorer lands that are hilly, or rocky, or dry, or wet, or unfertile. On many farms the same order of utilization goes on. The farmer utilizes his most economically productive lands first, but as he needs more cultivable land, he clears and makes ready for cultivation the less productive lands on his farm. Sometimes the competition of new lands drives out of use lands once economically productive. With the settlement of the new lands of the Middle West in the last half of the nineteenth century, many pieces of land and many farms were abandoned in New England and New York. The extension of agriculture into the rich plains of the United States, Canada, Australia, and Argentine and the competition of the agricultural products of these new regions drove many acres of farming land in England out of cultivation or into less intensive types of agriculture.

B. The Land Supply of the United States and Its Use

The Supply of Agricultural Land. The most outstanding characteristic of American agriculture has been the large supply of good land. The high economic and social status of American farmers generally as compared with farmers in most other countries has been due largely to the abundance of fertile land. According to the Census of 1920 the land supply of continental United States was distributed as follows:

Total land area	1,903,000,000
All land in farms	955,000,000
Improved land in farms	503,000,000
Woodland in farms	167,000,000
Other unimproved land in farms	285,000,000

At the present time just about one-half of the total land supply of the United States is in farms, and just a little more than one-half of the land in farms is improved.

Present and Potential Use of Land. During the last ten years the United States Department of Agriculture has made some very careful studies of the present and potential use of the land of the United States. Figure 7 shows the present and potential use of the land supply of the United States. The figure is an excellent summary of the present and potential uses of our land, and should be studied very carefully by the student. According to the figure 26.4 per cent of all land is now improved. The amount of improved land can be increased to 42 per cent of the total land acreage. This increase can be made by irrigating 30,000,000 acres of dry land, draining 30,000,000 acres of wet land, draining and clearing 60,000,000 acres of wet land, clearing 50,000,000 acres of forest and cut-over land, and improving 127,000,000 acres of pasture and range land. By these means the amount of improved land can be increased from 503,000,000 acres to 800,000,000 acres, or practically 300,000,000 acres. This would leave 658,000,000 acres of unimproved pasture and range land and 355,000,000 acres of forest land.

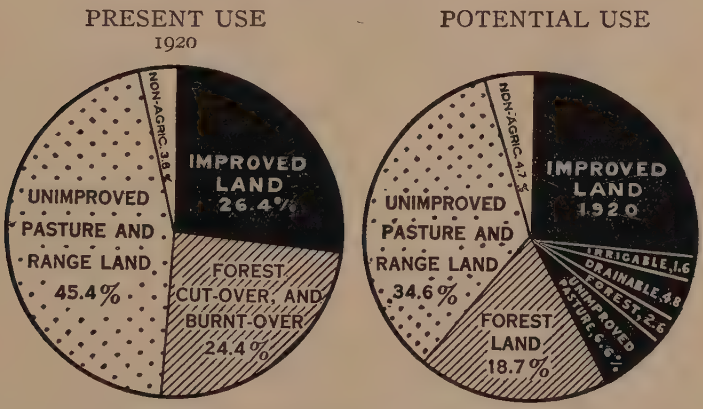

FIG. 7.—Present and potential use of the land supply of the United States. (*Agriculture Yearbook*, 1921, p. 24.)

Increasing Scarcity of Land. With the exhaustion of free land and the rapid increase of population has come a growing scarcity of good farm lands in the United States. The per capita acreage of farm land was about 13 in 1860, but had decreased to about 9 in 1920. The per capita acreage of improved farm land was at its maximum from 1880 to 1890, being 5.6 then, but since that time has steadily declined to 4.8.[4] This is a decline of nearly an acre of improved land per capita during the last thirty years. The per capita acreage of crop land for nine principal crops reached its maximum at 3.5 acres in 1900, and declined to about 3 acres in 1920. The American population has been growing at the rate of something over 10,000,000 people per decade. Our best students of population estimate a population of over 150,000,000 by 1950.[5] As long as there was plenty of good farming land in undeveloped sections our increasing demands for agricultural products were met by an extension of the agricultural area. But now our agricultural area can be extended only at an increasing cost per new acres added. From now on American farmers will have to turn more of their attention and efforts to an intensive use of the land already in cultivation.

Meeting Increased Demand for Farm Products. The increasing demand for farm products in the United States will be met in several different ways. As the demand for different kinds of products increases and the prices of these products rise, the situation will be met by increasing the farm acreage, by turning pasture land into crop land, by increasing the yields per acre, by decreasing agricultural exports, by changing consumption, and by importing agricultural products.

Increasing the Farm Acreage. It has already been shown that the farm acreage can be greatly increased by irrigating 30,000,000 acres, draining 30,000,000 acres, draining and clearing 60,000,000 acres, and clearing

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[4] *Agriculture Yearbook*, 1923, pp. 433-434.

[5] *Ibid.*, p. 461.

50,000,000 acres of forest and cut-over lands. By these means 170,000,000 acres can be added to the present farm acreage.

Turning Pasture Lands into Crop Lands. Many acres now in pasture can be used for crop land. A much greater food supply can be produced on the same land by cropping than by pasturing. Measured in calories, it has been estimated that the amounts of food that can be produced on an acre of land, by pasturing different animals or growing different crops, bear the following ratios to wheat as a basis of 100 per cent: beef, 7 per cent; mutton, 11 per cent; whole milk, 43 per cent; rye meal, 98 per cent; oat meal, 112 per cent; beans, 129 per cent; corn meal, 186 per cent; potatoes, 260 per cent; sweet potatoes, 482 per cent.[6] Of course different kinds of land are more or less limited in the variety of crops that can be grown on them. Also there are decided limitations in the extent to which vegetable foods can be substituted for meat and animal products. But the ratios given above show the great possibilities of increasing the food supply by turning pasture land into crop land.

Increasing Yields Per Acre. Increased yields per acre is another method of meeting the increasing demand for agricultural products. While possible increases in yields per acre have often been greatly exaggerated by people uninformed in the economics of agricultural production, there is no question but that great increases can be made along this line. Some of the more important means of increasing yields per acre are: selection of better crops and animals; scientific rotation of crops; increasing soil fertility; elimination of insects, weeds, and diseases; improved methods of planting, cultivating, and harvesting; and efficient farm management.

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[6] Carver, *Principles of Rural Economics,* p. 161.

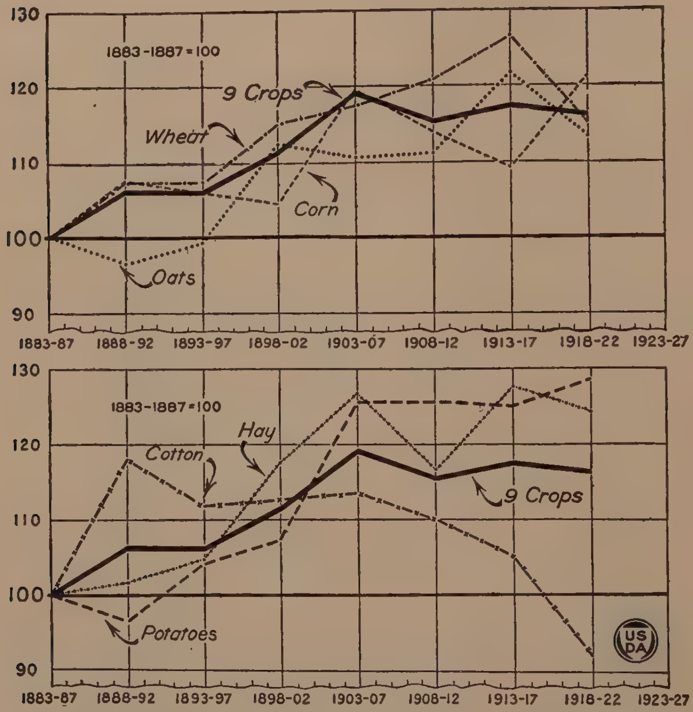

FIG. 8.—The five-year average yield per acre was higher in 1918-22 than in 1883-87 for all of the six crops except cotton. However, the average yield for 1918-22 was lower than it was in 1903-07, not only of cotton but also of wheat, oats, and hay. The composite curve for nine principal crops, shown by the heavy black line, also indicates a slightly smaller average yield in 1918-22 than in 1903-07; though about 16 per cent above the average yield for 1883-87. The composite curve was made by weighting the yield of each crop by its relative acreage in the period 1908-12. (*Agriculture Yearbook*, 1923, p. 464.)

Figure 8 above, taken from the *Agriculture Yearbook* (1923), shows the trends in yields per acre from 1883 to 1922 of six important crops, figured on the basis of index numbers.[7] A combined index of nine important crops is also given. The trends are shown by five-year averages. In every one of the six principal crops, except cotton, there was an increase in yield per acre. The increase in yields for the five principal crops ranged from 10 to 28 per cent, and the increase for the nine important crops combined was 16 per cent. With the rapid growth and spread of scientific agriculture we may expect yields per acre to increase in the future. These increased yields will partly take care of the increasing demand for agricultural products.

As compared with other countries, we see from Table 5 that crop yields in four leading countries exceed our yields, ranging from 19.2 per cent for sugar beets to 70.4 per cent for rye. In wheat and potatoes the excess in the average European yield is 61.2 per cent and 62.1 per cent respectively.[8] While it would not be economical for us to try to

TABLE 5. AVERAGE YIELD PER ACRE OF VARIOUS CROPS IN CERTAIN COUNTRIES AS COMPARED WITH THE YIELD PER ACRE IN THE UNITED STATES, 1909-13 * (*Agriculture Yearbook,* 1923, p. 467.)

	Yields Per Acre						
Crop	*Germany*	*France*	*Great Britain and Ireland*	*Belgium*	*Average Weighted by Crop Acreage*	*United States*	*Superiority in Yield*
	Bushels	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Bushels*	*Per Cent*
Wheat	31.8	19.6	31.7	37.6	23.5	14.6	61.22
Rye	29.0	16.6	30.1	35.2	26.6	15.6	70.40
Barley	38.5	25.8	35.3	51.1	34.7	24.0	44.96
Oats	54.9	36.2	50.7	66.1	47.4	30.4	55.96
Potatoes	203.7	127.4	216.2	277.2	157.2	97.0	62.12
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*	*Pounds*	
Tobacco	1,713.0	1,231.2	936.8	2,034.2	1,481.0	820.8	80.43
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	
Sugar Beets ..	12.6	10.7	....	12.3	12.0	10.1	19.28

* From Annuaire International De Statistique Agricole (Rome, 1922).

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[7] *Agriculture Yearbook,* 1923, p. 464.

[8] *Ibid.,* p. 467.

increase our acreage yields up to the average acreage yields in these four European countries now, experts in the United States Department of Agriculture have estimated that for our ten important crops, which occupy about 90 per cent of our crop area, we may expect an increase in production per unit of crop area of 46 per cent.[9]

Decreasing Exports. As our own domestic demand for agricultural products increases, our foreign exports will fall off. It is estimated that in 1920 about 98,800,000 acres of our 574,000,000 acres of crop and pasture land, or 17 per cent, were devoted to the production of crops and meat products for export.[10] By ceasing to export agricultural products it is probable that we can care for around 25,000,000 more people at our present standards of consumption. However, under the pressure of increased population we would hardly cease to export products which our soil and climate are most favorable for producing, and for which there is a good demand in foreign countries. Cotton is the outstanding example of such a crop. We shall most likely continue to produce cotton for foreign markets and import food products. But during the next four or five decades we shall most likely divert a considerable amount of the land now producing supplies for the foreign market to production for domestic consumption.

Changing Consumption Habits. Our land supply can be economized further by a change in consumption. Up till the present we have been a great meat-eating nation, and we still continue to consume a much greater amount of meat per capita than other nations. It takes much more land per capita to furnish food for a nation in which meat consumption is high per capita than for a nation in which the people are accustomed to a cereal and vegetable diet. Before the war Germany was an example of a progressive, well-fed people, between 85 and 90 per cent self-sufficient in food supply. During the decade preceding the war Germany had a much more economical diet than the United States, though it was estimated that the average caloric consumption per man was 15 per cent higher than necessary. In Table 6 is given a comparison of per capita consumption of the leading kinds of foodstuffs in Germany and the United States.[11] From this table it is seen that our consumption of meat products per capita is much greater than among the Germans, while our consumption of cereal products is much smaller. Should we adopt a diet with more vegetable products and less animal products, somewhat similar to the German diet, we could effect a very great economy in the use of our agricultural lands.

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[9] *Agriculture Yearbook,* 1923, p. 467.
[10] *Ibid.,* pp. 455-459.

Importation of Agricultural Products. A final resort for economizing in the use of our agricultural land supply will be the importation of agricultural products from foreign countries and the diverting of lands now used for growing such products to other and more intensive uses. All parts of the world have become so closely connected through rapid means of transportation that great economies can be effected in most nations by importing those products that other nations can produce to better advantage. This permits the importing nation to devote more of its agricultural land to the growing of concentrated and high yielding crops especially adapted to its soil, climate, and labor conditions. For more than a century the thickly populated countries of western Europe have imported a large percentage of their cereals and meat

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[11] *Ibid.*, p. 482.

TABLE 6. COMPARATIVE PER CAPITA CONSUMPTION OF FOODSTUFFS IN GERMANY AND THE UNITED STATES *

ANIMAL PRODUCTS

Kind	*Germany* †	*United States* ‡	*Per Cent German Figure Is of American Figure*
	Pounds	*Pounds*	
Beef and veal	39.40	68.36	57.6
Pork and pork products (including lard)	75.45	83.80	90.0
Mutton and lamb	2.00	5.34	37.5
Poultry	4.82	20.20	23.9
Eggs	15.99	28.30	56.5
Milk	283.30	418.80	67.6
All dairy products in terms of milk	711.34	773.13	92.0
Butter	15.44	15.23	101.4
Cheese	10.38	3.45	300.9
Fish	19.56	17.00	115.1

VEGETABLE PRODUCTS

	Pounds	*Pounds* §	
Wheat flour	129.92	204.70	63.5
Rye flour	157.82	4.30	3,670.2
Corn meal or flour	....	58.40	....
Rice	7.20	5.40	133.3
Other cereals (oatmeal, barley, buckwheat, etc.)	22.06	6.30	350.2
Total all cereals	317.00	279.10	113.6
Potatoes	407.27	150.10	271.3
Sugars	44.57	95.70	46.6

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* (*Agriculture Yearbook*, 1923, p. 482.)

† Derived with minor modifications and adjustments for purposes of comparison from "Report on Food Conditions in Germany," by Ernest H. Starling and others.

‡ Animal products consumed in the United States—Beef and veal, pork and pork products, including 'ard, mutton and lamb, are based on average consumption, 1918 to 1922, inclusive; statistics furnished by John Roberts, United States Department of Agriculture. Statistics on average consumption of dairy products in the United States, 1918 to 1922, inclusive, furnished by T. R. Pirtle, United States Department of Agriculture.

§ From *The Nation's Food*, by Raymond Pearl. Average consumption, 1911-18, inclusive, calculated from tables in Chapter XI.

from the wheat fields and the cattle ranges of the United States, Canada, Australia, Argentine, Russia, India, and South Africa, while they have diverted more and more of their land to the production of dairy products and bulky green vegetables for local markets. At the present time we import sugar, silk, tea, flax fiber, wool, and coconut oils from foreign countries. The countries from which these products are imported have favorable physical and economic conditions for producing these products, and it is to our advantage to import these products and to devote our land to the production of those crops that we can grow more advantageously. As our population increases, and new agricultural developments take place in foreign countries, and means of transportation improve, we shall import a larger and larger percentage of our agricultural products for domestic consumption.

Economic Principles in Land Utilization. We have set forth the potential uses of our supply of agricultural land. But it needs to be emphasized just now (and perhaps during the next decade) that the present demand for agricultural products does not justify the expenditure of large sums of money in draining, irrigating, and clearing new agricultural land. There has already been an overexpansion in irrigated lands in the West. On many of the western projects, farmers have not been able to get sufficient financial returns from their land to maintain their standard of living and meet the annual payments on the land. Prices paid to farmers for products grown on the land have not been high enough to pay the cost of developing the land. In many cases reclamation and drainage have been viewed primarily from the promoters' and local boosters' points of view, rather than from the view of sound economic principles. Local communities and the public need to be educated to the view that it is bad for farmers and a great economic waste for national and state governments to go ahead and develop projects, when the prices for the products grown on the land will not pay for the cost of reclaiming the land and afford the farmer and his family a good standard of living. This phase of land utilization is treated more fully in a later chapter on land policies.

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CHAPTER V

LAND INCOME AND LAND VALUES

A. Land Income

The Nature of Land Income. Because of the products and other satisfactions that can be obtained from the use of land, people pay a price for the annual use of the land. The price paid for the annual use of land is called land income, or rent. The farmer who wishes to engage in farming but does not own a farm pays an annual rent for the use of a farm, either in cash payment or a part of the products grown on the farm. The rent which a farmer will pay for the use of a farm depends chiefly on the net gain that he can make from the use of the land and the social satisfactions that come from living on the land. The products and social satisfactions gained from the use of the land have value because of the scarcity of good farming land. In other words, the limited supply of good agricultural land is the ultimate explanation of land income or rent. Unless land will yield products that have a value in excess of the cost of producing them, no one will pay for the annual use of the land. Much land does not bring any annual income because it does not yield a net return. Often in frontier communities good land is so plentiful that land has no rental value. There is an abundance of good land that may be used for nothing.

Factors Influencing Land Income. The price paid for the use of land is a derived price. Many factors influence this price. They may be classified as follows:

- I. Factors of a Competitive Character.
    - A. Affecting the demand for land.
        - 1. Consuming population.
        - 2. Purchasing power of consumers.
        - 3. The price of farm products.
        - 4. Social preferences of farmers.
        - 5. Opportunities in other fields.
    - B. Affecting the supply of land.
        - 1. Relative abundance.
        - 2. Physical characteristics.
        - 3. Improvements.
        - 4. Location with reference to markets.
        - 5. Social advantages.
- II. Factors of Non-Competitive Character.
    - 1. Custom rent.
    - 2. Monopoly of ownership.
    - 3. Rack renting.
    - 4. Ignorance.
    - 5. Low bargaining power.

Not all of these factors enter into the determination of the price paid for the use of every farm. The influence of the different factors varies with countries, sections, communities, and the farming population. In attempting to show how changes in any one of the factors noted influence land income, it is necessary to assume that all the other factors have remained the same.

(1) Among the competitive factors influencing the demand for land we may place first the consuming population and their purchasing power. These two factors create the demand for farm products and determine the price that will be paid for them. The price received for farm products is the biggest factor influencing the price paid for

the use of land. If the price of farm products is high, rent will be high. If the price of products is low, rent will be low. In addition to the demand for products and the price paid for them, social preferences may enter into the use of land and affect the price paid for it. In some communities most of the young men prefer to become farmers. They wish to remain in the same community in which they have grown up, among their kinsmen and friends. They are willing to pay a higher rent for a farm in their native community than they would pay for a farm equally as good in some distant community. Also rent is influenced by the economic opportunities in other fields. If the farm population is increasing and there are no new industries near by into which the surplus farm population may enter rent will rise because of the increased demand for the use of the land. No doubt rents in many communities in the southern states have remained relatively high because of the rapid increase of the farming population and the absence of industrial enterprises. In the Piedmont sections of the South, where many cotton mills have been built, the migration of a large part of the farm population to the mill towns has helped to keep land rent low.

(2) Among the competitive factors on the supply side, the relative abundance of land must be placed first in determining the price paid for the use of land. When there is an abundance of good land rent is low. The highest rents are paid in old countries and communities where there is a relative scarcity of good land. The physical characteristics of fertility, soil texture, topography, moisture, and temperature affect the rental value of any given farm. These physical characteristics determine the productivity of the land, and the price a farmer can afford to

pay for its use. The various improvements on the land such as buildings, fences, and roads affect the rental value of land, because of the satisfactions they yield. Location with reference to markets is an important factor influencing land rentals, because of the cost of marketing products. Easy access to markets is a distinct economic advantage and the users of land are willing to pay for this advantage in their rent. And equally important in influencing land rents are such social advantages as congenial neighbors, good schools and churches, roads, and nearness to recreational centers.

(3) Turning to the non-competitive factors in influencing the price paid for the use of land, we note first the influence of custom. In the feudal system of Europe the price paid for the use of land was fixed by custom. In certain parts of Europe the métayer system has long prevailed, in which the land owner furnishes the land and the capital and the tenant the labor, and the custom is to divide the products equally between the two. In our own country, the persistence of the *third,* the *half,* and the *two-thirds* systems in renting land are illustrations of the influence of custom on rent. In old countries where land is scarce and has fallen into the hands of a few big owners, and where there is a great demand for the use of land by a numerous peasantry, the owners are able to charge a sort of monopoly price for the use of the land. Under a régime of severely exploitive landlordism, generally of an absentee kind, a system of rack-renting may develop, by which is meant the exacting from the tenant every penny he can be made to pay for the use of the land, leaving the tenant only a bare subsistence standard of living. Ignorance on the part of the tenants makes it possible for them to be exploited by high rents, particularly when this

ignorance is accompanied by a rapidly increasing population. The low bargaining power of unskilled, poverty-stricken peasants gives landlords an advantage and helps them maintain high rents.

Land Income and Interest. Land income (rent) tends to equal interest, which is the price paid for the annual use of capital. Indeed rent and interest may both be regarded as income looked at from two different angles. Rent is income in relation to the quantity (acres) of capital yielding it, as so many dollars per acre. Interest is income in relation to the value (dollars worth) of the capital yielding it, as so many cents per dollar invested, or a percentage of the capital value. Let us assume that a 160-acre farm worth $100 an acre is rented for $6 an acre. The yearly income or rent from this farm would be $960. The capital value of the whole farm is $16,000. Since the yearly income of the farm is $960 and the capital value of it $16,000 the rate of the return, or interest on the capital invested, is 6 per cent. Thus rent and interest can be used interchangeably with reference to land income, depending upon whether it is regarded as a return per acre or a return per dollar invested.

This point of the identity of rent and interest has been exceedingly well illustrated by Professor Irving Fisher.[1] Suppose four brothers each with $100,000 to invest. Number one invests in the bonds of a land company and gets 100 bonds of $1,000 each, bearing 5 per cent interest and yielding a yearly income of $5,000. Number two invests his $100,000 in a farm of 1,000 acres which he rents to a tenant for $5 an acre or for $5,000. Number three invests his $100,000 in 100 stocks or shares of a land company, which pays him a dividend of 5 per cent, or

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[1] Fisher, *Elementary Principles of Economics,* 1920, pp. 422-427.

$5,000. Number four invests his $100,000 in a 1,000 acre farm, which he operates himself and from which he makes a net income of $5 an acre, or a total income of $5,000. Each of the four brothers gets an income of $5,000 from investments made in land, but each receives his income under different conditions, in different forms. Number one receives interest, number two rent, number three dividends, and number four profits.

Why Land Yields Low Returns. In an industrial society like ours persons with surplus funds to invest have the choice of investing their funds in either land, stocks, bonds, notes, or mortgages. In which one of these a person invests depends on his knowledge and experience and the rate of return each type of investment promises. Thus there is competition between the different fields of investments and a tendency for the returns in each field to become equal, allowing for the risks involved.

However, the net return on farm lands has usually been lower than the return on long term securities such as bonds and mortgages. In practically all sections of the United States the average return to farmers on the appraised selling value of farm lands has been lower than the rate of interest paid on farm mortgages. The chief reason for this low return on farm lands as compared with other sound investments has been the expected increase in land rentals and land values. Because those buying or holding farm lands have expected an increase in the rentals and the value of the land, they have been willing to accept a low present return. Again, most people buying farms look upon the farm as a place to live and work, and the best opportunity they have to gain a livelihood. They have grown up on the farm and are not familiar with other industries. They wish to remain among their kinsmen and neighbors and to retain their early institutional connections. These factors cause farmers to set higher values on farm lands than is justified by the financial returns they receive. An extensive and careful study made by the United States Department of Agriculture in two hundred and thirty-four counties, representative of typical agricultural areas, showed the ratio of net rent to land value to vary from 2.2 per cent in the counties of lowest returns to 6.5 per cent in counties of highest returns. As compared with other investments these are low returns.

Economic Rent and Contract Rent. Many economists make a distinction between economic rent and contract rent. By economic rent they mean the price that is paid for the economic productivity of the land alone, the net value of the products of the land after costs of production have been deducted. By contract rent they mean the amount of rent the renter agrees to pay the landlord for the use of the land. This contract rent may differ from the economic rent, or the economic productivity of the land. Contract rent includes payment for the use of dwelling house and barns, for social advantages of location, such as neighbors, schools, churches, roads, and recreational center. On farms and in communities with the above advantages, contract rent tends to be higher than economic rent. In the cropper sections of the South contract rent tends to be high because the landlord must also partly supervise the working of the land. Where there is keen competition among tenants for the use of the land contract rent tends to outstrip economic rent. Where land goes begging for tenants to work it, economic rent tends to outstrip contract rent.

Since economic rent is the net return from the land after deducting costs of production, it should be regarded as existing on every farm whether the farm is worked by a tenant or an owner. The economic rent is the return to the land as a factor in production. When contract rent is below economic rent, tenant farming pays good returns, and many tenants go into tenant farming. The bidding of tenants for the use of the land forces contract rent up to something near the economic rent. If contract rent falls too much below economic rent, landlords themselves will enter the field of production and operate their own land. This will make land for rent scarcer and compel tenants to bid higher for its use. If contract rent becomes higher than economic rent, tenants will find it unprofitable to rent land for farming and some of them will go into other industries. This will cause land for rent to become more abundant and rentals cheaper. However, it must not be assumed that these adjustments take place inevitably, readily, and rapidly. At most there are only tendencies toward these adjustments. Customs, social habits, economic status, difficulties of going into new industries, all offer obstacles to quick readjustments.

Influence of Technological Improvements on Rents. Improvements in the art and science of agriculture tend to reduce rents, if there has been no increased demand for agricultural products. Such improvements hold rents down if population and demand for agricultural products increase. Better crops and live stock, scientific knowledge of soils and how to treat them, improved methods of cultivation and harvesting, improved machinery, and new knowledge of how to conserve products, increase the supply of agricultural products for the market. In the last two centuries the population of Western countries has increased tremendously, and one of the most important factors in keeping down the rents of agricultural lands, in spite of the increased demand for farm products, has been the great improvements in the art and science of agriculture. No doubt in the United States we are just now entering an era in which the majority of farmers will use scientific methods of production, greatly increasing the output of agricultural products per acre. We may expect this increased production coming from improvement in the art and science of agriculture to keep down rents in the face of a growing demand for farm products. In fact, the use of these improved methods of production may become so widespread and production so greatly increased, that we shall have an era of low agricultural prices and low rents.

Influence of Transportation on Rents. Transportation is one of the biggest factors in modern times affecting rents. The development of railroads and steamship systems has tapped new lands in all parts of the world and brought the agricultural products of these new lands into competition with the agricultural products of the old countries. During the last half of the nineteenth century European farmers and the farmers of the older eastern sections of the United States found themselves being undersold in European markets by the farmers of the upper Mississippi valley, Canada, Australia, and Argentine, who were able to produce grain and meat at a very much lower cost. The tapping of these new lands by railroad and steamship systems vastly increased the supply of meats and grains, brought down prices, and caused rents in northwestern Europe and the eastern sections of the United States to fall. In some parts of England from 1875 to 1895 rents on agricultural lands are estimated to have fallen 50 per cent. In all parts of northwestern

Europe, where the products of these new countries came into competition with domestic products there was a fall in rents. In the eastern states of the United States many farms were abandoned and may be said to have lost all their rental values because of the competition of the products of the new regions. Improved transportation also tends to reduce the rental advantages of location. Farms near the big marketing centers are forced to compete with the farms lying at greater distances from the market, and this competition keeps down rents on the farms near the marketing centers. Refrigeration cars, fast express trains for carrying perishables, interurban trollies, good roads, and trucks tend to keep down rents on lands near the big markets.

The Trend of Agricultural Rents. The great English classical economists held that the ownership of agricultural lands gave landlords a sort of monopoly, and that with this monopoly advantage landlords would be in a position to charge constantly increasing prices for the use of agricultural lands, as population and the demand for more food products increased. Because the amount of good agricultural land was very definitely limited and because population would continue to increase, rents would rise higher and higher and take a larger and larger part of the social income of society. In their writings the classical economists had in mind chiefly the land situation as it prevailed in England at that time, the last quarter of the eighteenth century and the first quarter of the nineteenth century. Professor Pierson, a Dutch economist, has cited some figures showing the trend of rents in several European countries during the last three-quarters of the nineteenth century.[2] He shows rises in rents as follows:

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[2] *Principles of Economics,* Vol. I, pp. 120-126.

Prussia, 1849-1891, a rise of 180 per cent; France, 1851-1879, a rise of nearly 50 per cent; Holland, 1830-1879, a rise of 106 per cent. In England from 1800 to 1870 there was a rise in rents. However, after 1880 the rise of rents was checked in European countries by the competition of new lands. In many sections, as already stated, rents fell considerably, in some cases as much as 50 per cent. In general from 1890 to 1914 rents fell or remained stationary throughout the countries of northwestern Europe. The predictions of the classical economists, that rents would rise and absorb an ever larger proportion of the social income did not materialize, due to improvements in the art and science of agriculture, increased production, the development of transportation, and the extension of agriculture into new areas.

In the United States, there has been a rise in rents as population has increased. On the frontier there was free land to be had up to 1890. As long as there was a great abundance of free or very cheap land on the frontier agricultural rents were low. However, from 1900 to 1920 rents began to increase rather sharply in some of the best agricultural sections of the country, particularly in the blacklands of Texas, in the best parts of the cotton belt, and in the most fertile sections of the Mississippi valley. Excepting a few localities, increase in rents in the United States to date has not worked for the special advantage of landlords, with a corresponding disadvantage for tenants, as was predicted by the classical English economists. Generally landlords and tenants have both shared in the financial advantages coming from the rise in rents.

B. LAND VALUES

Value of Land Is Its Rent Capitalized.[3] The purchase of a farm is the purchase of the right to receive the annual income or rent from the farm. We have also seen that rent and interest are essentially identical. Now if interest and rent are identical, then the purchase of a farm is the purchase of the right to draw interest on the money invested in the farm. The value of interest bearing wealth is its rate of interest capitalized. Let us say that one has received $500 in interest from capital invested that pays a rate of 5 per cent. The interest-yielding capital would be $10,000, the amount that yields $500 at a rate of 5 per cent. (If the net interest is $500 and the current rate of interest is 5 per cent, then the value of the capital invested is $\frac{100}{5} \times \$500$, or $10,000.) This process of computing the capital value of a good from its net income and the current rate of interest is known as capitalization.

The same process is applied in the valuation of land. The rate of return on all kinds of investments in a competitive society tends to be the same. Sellers of farm lands are in competition with sellers of stocks, bonds, and other securities for investment purposes. The competition of investors with surplus capital to invest tends to keep the rate of return on all kinds of investments about the same. Let us assume three farms, with net incomes of $500, $750 and $1,000 respectively, for sale in a community where the current rate of return on stocks, bonds, and loans is 5 per cent. For purposes of investment the three farms would be valued at $10,000, $15,000 and $20,000 respectively, which would be their net incomes capitalized at the 5 per cent current return on capital in the community. The value of land then is its net rent capitalized.

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[3] Ely and Morehouse, *Elements of Land Economics,* 1924, Ch. XII; Chambers, "Relation of Land Income to Land Values," U. S. D. A. Bul. 1224.

However, as has already been explained, the rate of return on farm lands has usually been below the rate of return in other fields of investment, because investors in farm lands have usually expected in addition to the regular rate of return on the investment a gain through the rise of rentals. They are willing to take a lower return on their investments in land, because of the increase in rentals that they expect to get. Again, land is a relatively safe investment. Up to the present time there has been little risk involved in buying a farm. Land is a durable good. The safer the good, the lower the rate of return on it. Also, there has been a great deal of competition among farmers in buying farms, owing to the increase in the number of farmers, increase in the size of farms, and the lack of knowledge and experience among farmers in making investments in other fields. This competition in the purchase of farms has tended to keep the return on land low.

Since the value of land is its net income capitalized at the current rate of interest, a change in either the net income of the land or in the current rate of interest will cause a change in the value of land. If the current rate of interest should rise from 5 to 6 per cent, the value of a farm with a net income of $750 would drop from $15,000 to $12,500. If the current rate of interest should drop from 5 to 4 per cent, the value of the farm would increase from $15,000 to $18,750. On the other hand if the net income should rise from $750 to $1,000 and the current rate of interest remain 5 per cent, the value of the farm would increase from \$15,000 to \$20,000. If the net income should drop from \$750 to \$500, the value of the farm would drop from \$15,000 to \$10,000. From these illustrations we may conclude that the value of farm lands varies directly with the net income and inversely with the rate of interest. High rents mean high land values. High interest rates mean low land values.

Formula for Land Valuation. Agricultural economists in the United States have worked out a formula for the valuation of land on the above basis.[4] In arriving at the value of farming land, three variable factors must be taken into consideration: (1) the current interest rate; (2) the net rent of the land; and (3) the anticipated increase or decrease in the net rent. Let $V =$ the value of the land, $a =$ the annual income or net rent, $i =$ the average anticipated increase in annual income or net rent, and $r =$ the current rate of interest, or rate of capitalization. If there were no anticipated increase in net rent, then the formula for arriving at the value of the land would be written, $V = \frac{a}{r}$. In this case, if the annual net rent were \$6 an acre and the current interest rate 5 per cent, then $V = \frac{\$6.00}{.05}$ or \$120, which would be the value per acre. If the interest rate were to drop to 4 per cent, while the net rent remained constant, the formula would give the higher valuation of \$150 per acre $(V = \frac{\$6.00}{.04} =$

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[4] Taylor, *Outlines of Agricultural Economics,* 1925, Ch. XVIII; Chambers, "Relation of Land Income to Land Values," U. S. D. A. Bul. 1224; Haas, "Sale Price as a Basis for Farm Land Appraisal," Tech. Bul. 9, Minn. Exp. Sta.; Buechel, "Relation Between Rents and Agricultural Land Values in Theory and in Practise," Bul. 318, Tex. Exp. Sta.

\$150). On the other hand if the interest rate rose to 6 per cent, while the net rent remained the same, the formula would give the lower valuation of \$100 per acre ($V = \frac{\$6.00}{.06} = \$100$).

However, the formula $V = \frac{a}{r}$ does not take into account anticipated annual increases in net rent. This must be done in order to arrive at the true present value of land, because we have seen that these productive increases in rent are also capitalized. Consequently the formula $V = \frac{a}{r}$ has been corrected by some of the American land economists to allow for the capitalization of this anticipated annual increase in rent. Letting i = anticipated annual increase in net rent, the formula is written, $V = \frac{a}{r} + \frac{i}{r^2}$. If the anticipated annual net increase in rent is \$0.10 an acre, annual rent \$6, and the current rate of interest 5 per cent, then substituting in the formula, we get $V = \frac{\$6.00}{.05} + \frac{\$0.10}{(\ .05)^2}$, or \$160 per acre. In this case the original formula, $V = \frac{a}{r}$, which did not take into account the anticipated annual increase of \$0.10 in net rent per acre would have given a valuation of \$120 an acre ($V = \frac{\$6.00}{.05}$, \$120), whereas the corrected formula, $V = \frac{a}{r} + \frac{i}{r^2}$, which does take into account the anticipated annual increase in rent of \$0.10 an acre gives \$160 an acre. The difference of \$40 between the two valuations is the amount due to the capitalization of the anticipated annual increase in net rent.

Trend in Farm Land Values in the United States. Since 1850 there has been an upward trend in land values for every decade except one, the decade 1890 to 1900. This upward trend is shown in Table 7.

TABLE 7. VALUE AND INCREASE PER ACRE OF FARM LANDS (INCLUDING BUILDINGS) 1850 TO 1920

Year	*Average Value Per Acre*	*Increase in Value*	*Per Cent Increase*
1850	$11.14	....	....
1860	16.32	$5.18	46.5
1870	18.26	1.94	11.8
1880	19.02	.76	4.1
1890	21.31	2.29	12.0
1900	19.81	—1.50	—7.0
1910	39.60	19.79	99.8
1920	69.38	29.78	75.2

From 1850 to 1860 there was an increase of 46.5 per cent in the value of land per acre, due largely to the additions of great quantities of gold to the monetary medium, the great increase in bank note circulation of the state banks, and the rapid industrial development and feverish speculation immediately preceding the panic of 1857. From 1860 to 1890 the increases in land values per acre each decade were moderate, being 11.8 per cent from 1860 to 1870, 4.1 per cent from 1870 to 1880, and 12.1 per cent from 1880 to 1890. From 1890 to 1900 there was a decrease of 7.0 per cent, due to the falling price level during this period. From 1900 to 1910 the average value of land doubled, and from 1910 to 1920 the value increased 75.2 per cent. The 100 per cent increase in the value of land from 1900 to 1910 was due in part to a general rise in the price level, but also to the first real felt scarcity of land caused by the exhaustion of free land and a rise in rents, and to an element of land speculation that forced prices of land upward.

Since the true value of land is its net earning capacity capitalized at the current rate of interest, it makes little difference to the investor whether land values rise or fall if these values move in the same proportion as rents. However, if land values rise faster than rents, these investments in land are not sound investments, because fair earning capacity on the basis of investment is the best test of a sound investment. From 1900 to 1910 the average value of all crops per acre rose from $9.77 to $16.30, or 66.8 per cent, but during the same decade the average value of land rose 100 per cent. This disproportionate rise in land values relative to the increase in earnings has been the chief cause of the low rate of return on farming lands in most sections of the United States, varying from 2 to 4 per cent. How the ratio of cash rents to current land values has decreased in a typical agricultural state is shown in Figure 9.

This figure shows that in 1900 the ratio of cash rents to the value of land was 10 per cent, but that from 1900 to 1920 the ratio of cash rents to current land value decreased gradually from 10 per cent to less than 6 per cent. This decreasing ratio of cash rents to current land values is to be explained chiefly on the ground that farmers and other land investors began to note a gradual rise in rents immediately preceding 1900 and the few years afterwards, and projected this rise indefinitely into the future, and therefore tended to value farming lands on the basis of these anticipated yearly increases in rents. In other words they valued land beyond its current earning capacity, expecting to be rewarded by the increasing yearly rentals.

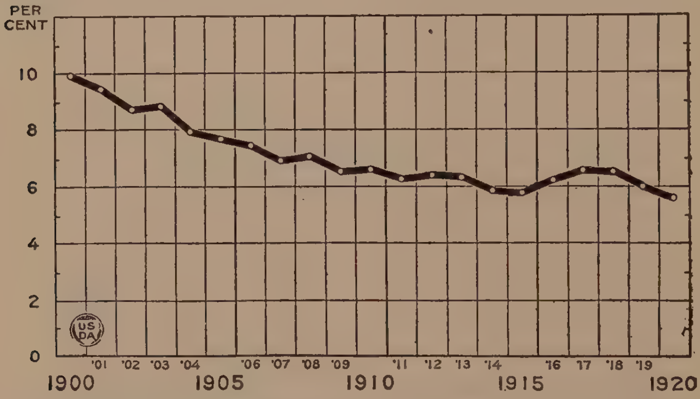

Fig. 9.—Ratio of gross cash rent to land value in Ohio, 1900-1920.—(Dept. Bul. 1224, U. S. D. A.)

Land Speculation. This tendency for land rentals and land values to rise has led to a great deal of speculation in farming lands. By speculation is meant the buying of something with the expectation of selling it at a gain. What the future price of rentals or land will be is at best a guess. A period of gradually rising rents and land values encourages speculation, because people become convinced that rents and land values will continue to rise indefinitely, and they invest in land expecting to make big gains. The rapidly rising prices of farm products and land rentals during the World War period in this country were especially conducive to land speculation. The brisk demand for farm products from 1914 to 1920 caused the price of farm products, and consequently farm incomes, to increase much more rapidly for the time being than land values. Farmers found themselves in possession of surplus funds. Financial inflation had also made much credit available on easy terms. Loanable funds were abundant. Other investors became interested in land purely for speculation. Professional land dealers and high power salesmen got into the land market. A great deal of publicity was given to high prices paid in farm deals. Many men believed that land values would never again go down, but would continue to rise. Optimism and boosting forced land prices higher and higher. A period of feverish speculation in farming land prevailed in many sections of the country, particularly in sections where great staple crops, corn, wheat, cotton, and tobacco were raised.

In 1920 the crash in agricultural prices came. In a few months prices of the leading staple crops dropped more than a third and during the following year the price of farm products dropped to about two-fifths of the peak price of 1920. Many farmers who had bought farms at high prices, expecting farm products to remain high, found themselves unable to meet the payments on the land, because of the great fall in the price of farm products. They could not borrow money at the banks to meet payments. Many of these farmers at the time of purchase had paid out all their savings as a first investment on the farms they bought.

A study made by the United States Department of Agriculture in fifteen corn- and wheat-producing states in 1922, showed that 8.5 per cent of the farm owners had lost their farms through foreclosure or bankruptcy, or by turning their farms over to their creditors without legal process, and that an additional 14.5 per cent of the farm owners were in part bankrupt, but were simply holding on through the leniency of their creditors.[5] Thus a total of 23 per cent of all farm owners in these states had become bankrupt or lost their farms. The chief cause of these losses was overvalued farm lands. Many other farmers who bought farms during the period of inflated values and put all their savings into the farms as a first payment will have to struggle for a lifetime to hold on to their farms and to retain the savings they put into them.

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[5] *Agriculture Yearbook*, 1923, pp. 9-10.

Several important lessons may be learned from this orgy of land speculation and its disastrous results. Careful data should be collected by all the Colleges of Agriculture and by the State and National Departments of Agriculture showing the rise and fall of prices during periods of financial disturbance like the late war and earlier wars. The bearing of these price changes on land values should be carefully analyzed and the significant conclusions made the common knowledge of as many farmers as possible. Particularly should agricultural leaders and farm advisors become thoroughly acquainted with the significant conclusions drawn from these data, as they bear on the future trend of land values and the financial welfare of prospective purchasers of farms. The Colleges of Agriculture and the State and National Departments of Agriculture, that have experts studying future demands and prices of agricultural products, and the possible influence of prices on land values, should avail themselves of every possible means of publicity to advise and warn farmers about trends in price changes and their influence on the value of farm lands. In our commercial agriculture, with land values pushed up to the margin of their real worth and agricultural prices influenced by so many factors of a national and international character, the purchaser of a farm needs to give the most careful attention to the present economic situation in agriculture and to anticipate the trend of agricultural prices. Individual farmers cannot without expert guidance make themselves cognizant of these important facts. They need the assistance of their agricultural service agencies.

How Far Shall Farmers Invest Their Surplus in Land. In a machine agricultural economy like that practiced in most sections of the United States, many farmers make a surplus each year, that is they have an income that exceeds their expenditures. What shall they do with this surplus? There are several alternatives. Farmers can invest their surplus in more land or in clearing or reclaiming additional acres on their farms; or they can increase their other productive capital equipment; or they can retire and rent out their farms, and live on the surplus; or they can use their surplus in raising their standard of living, that is, in improving their homes, reducing the drudgery in farm life, educating their children, and sharing more in the best things that modern civilization has to offer. The general practice of so many farmers of buying more land to raise more hogs to buy more land to raise more hogs, etc., has helped to make farm products cheap in the United States and to give farmers a low income and a low standard of living. This all too common practice among farmers has done much to make farm life unattractive. If farmers in general would use more of their surplus in improving their standard of living, rather than in expanding agriculture, they would receive better prices for their products, raise their incomes, and get a much greater enjoyment out of life. This does not mean that farmers should spend their incomes recklessly and extravagantly. But tremendous improvements remain to be made in farm homes. According to the Census reports of 1920 only 10 per cent of American farm homes had water piped into the house, only 7 per cent had gas or electric lights, only 30 per cent had automobiles, and only 38 per cent telephones. All of these conveniences are essential for comfortable, happy home life in the country. And there are many other facilities lacking in the majority of farm homes, such as power washers, vacuum cleaners, musical instruments, good books, and magazines, and radio sets, which yield great satisfaction to farm folk. In the matter of education, farm children are without many advantages that town and city children have. Farmers would do well to spend more money in giving their children at least a high school education, which has become the minimum educational equipment for civic and vocational purposes today. And finally there is the opportunity of investment in college education for the capable young men and women on the farm.

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CHAPTER VI

LAND TENURE

A. BACKGROUND AND DEVELOPMENT OF LAND TENURE IN THE UNITED STATES

Meaning and Varieties of Land Tenure. Land tenure is a broad term referring to the many legal, economic, and social customs concerned with the ownership and operation of land. Agricultural lands may be publicly or privately owned. In the United States the Federal and State governments have held and still hold vast tracts of land suitable for agricultural purposes. But the policy of the Federal and State governments has been to dispose of these lands to private individuals as rapidly as possible, either by sale or by requirements of residence and improvements on the land.

In some countries agricultural land is held by the state and leased to those who farm the land. In the United States the Federal Government still owns 186,000,000 acres of arid and semi-arid land in the West, which is used by private individuals for the grazing of cattle and sheep, rent free. The Federal Government also permits grazing on 110,000,000 acres in the national forests. But practically all the public land suitable for tillage has been disposed of. The Federal Government holds in trusteeship and leases for its Indian wards about 15,000,000 acres of farming lands. The States altogether rent out approximately 30,000,000 acres of their public lands.[1]

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[1] *Agriculture Yearbook,* 1923, pp. 524-525.

Most of the land, however, used for agricultural purposes in the United States is privately owned. Common property in land is still found in a few communities in New England, where the pasture and hay lands were originally held as commons in joint ownership by all the people of a community. There are also nearly 8,000 farming corporations holding land in joint private ownership in the United States at the present time. Many other corporations, like lumber companies, land development companies, and money-lending corporations, hold some land suitable for agricultural purposes, which they lease to farmers and stockmen. A number of Indian tribes hold their land in common. But most of the agricultural land in the United States is held in private individual ownership, and is operated by the owners themselves, or by managers, or leased to tenants.

All farm lands privately owned in the United States are held in fee simple, after title is gained, that is, in absolute ownership, with little or no state restraints in use, sale, and inheritance, so long as questions of eminent domain and the public welfare are not involved. Of course the state has the right to tax farm lands, to take land for roads, schools, and other public purposes, and to control land in the interest of the public welfare. This is a sovereign right of all states. In fact, the state creates the right of private ownership of land on the theory that private ownership of land promotes the public welfare.

The Development of Land Tenure in Western Europe. In the United States we have become so accustomed to private, individual ownership of agricultural land, that it rarely occurs to us that land has not always been privately and individually owned. But our ancestors in Western Europe, from whom we received our land tenure practices, came to the custom of private, individual ownership of land by a long process of social evolution.[2]

(1) In the hunting stage and in the most primitive stage of agriculture, the people of Europe did not think of themselves as owning the land. At a later stage of development, they came to regard the group, or community, or clan as owning the land.

(2) With the coming of a definitely settled agricultural life, the village or mark system of land tenure came into existence. At first the land was regarded as belonging to the village and was worked by the people in common. Later the heads of families were assigned definite lots of land to be worked privately by them and their families but the village still owned the land jointly. Commons for pasture and hay were retained for joint use by all the people of the village. Each family was given its allotment of land in several small scattered strips. Adjoining strips of different families were planted to the same crop, so that in the rotation of crops, the hay lands could be pastured as a commons after the hay had been cut. The land was periodically redivided among the families as in the Russian mir today.

(3) The village system was followed by the feudal, or manorial, system, which grew out of a state of conquest, disorder, and rapid economic and social changes in Europe from the eighth to the twelfth centuries. The masses of the people lost their rights of ownership in the land and became tenants and serfs. Ownership of the land became concentrated in the hands of lords and nobles. The manor became the unit of administration for the lord's estate. The agricultural land of the manor was divided into three classes—the demesne land of the lord, the land worked

[2] Gide, *Political Economy,* 1913, pp. 502-506.

by the serfs, and the common land for pasture. The serf was required to work several days a week on the demesne land for the lord who received all the products grown on the demesne land. Most of the serfs received all the products raised on the land set aside for their use, though some of them had to turn over a part of the products grown on their lots to the lords. The serfs had pasture rights in the commons for their live stock. The serfs lived in villages on the manor and were bound to the soil. The manor in itself was almost entirely self-sufficient.

(4) With the growth of towns and town industries, commerce, individual freedom, and civil equality, the feudal system of Europe was broken up. In England at the beginning of the seventeenth century, when English colonists began to migrate to America, the land tenure situation was somewhat as follows: The small open field system of medieval and early modern times was going out. The enclosure movement—the consolidation of many small fields into larger farms—was in progress. Large freehold farms and estates, land held in full tenure, were coming into existence. Small yeomen farmers were being pushed off the land. Many rural people were migrating to the towns and cities and going into other industries. English land tenure was beginning to take on its present definite form of large estates worked by tenant farmers and farm laborers. The English country squire and landlord was coming into his own as the leader of the country village. The ownership of large country estates had begun to carry social prestige. But there were still many small freeholders in possession of land. Farm laborers, tenants, and small freeholders still retained grazing rights in the commons, and received a part of their living from meat and animal products produced on the commons. The gov-

ernment had begun to make land mobile for purposes of sale and ownership. Lands could be bought and sold in fee simple. Absolute individual ownership had arrived. The land tenure ideas and practices of the early English colonists developed out of the land tenure situation that we have just sketched.

The New England Land System. In New England the King's original title to the land was passed to the General Court of the colony, which was a sort of legislature. The Court granted the land to a group of proprietors, who wished to found a settlement. These proprietors laid out the towns and made individual allotments to the settlers. The land was held by the individual owners, subject to the control of the community. The allotees became the real owners without any obligation to render feudal services or pay quitrents (payments in lieu of feudal services). In each settlement common lands were set aside—meadows, pastures, and woodlands—in which each farmer had a joint interest. The average size of individual allotments was small at first, ranging from six to fifteen acres. The settlers were urged to build their homes close together "for safety, Christian communion, schools, civility and other good ends." [3]

The New England environment was an important factor in keeping the size of farms small. The land was hilly, rocky, and not very fertile, except in the narrow river valleys. The growing season was short and the winters long and cold. There were no navigable rivers to facilitate the marketing of products. Hence there were no incentives for farmers in New England to engage in commercial agriculture. It was not profitable to use slaves and indentured servants. A self-sufficing family type of agriculture developed. As the people of New England migrated into New York, Ohio, and the new territories of the upper Mississippi Valley they carried with them the customs of the small family size farm.

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[3] Egleston, *The Land System of the New England Colonies,* 1886. The Johns Hopkins Press, Baltimore.

The Land System of the South. In sharp contrast to the early land system of New England was the land system that developed in the South.[4] The original title to the land in the South was in the King as in New England. Grants of land were made directly to the colonists from the King through lords proprietors and governors. Almost all grants were to individuals and not to corporations of settlers as in New England. At first lands were granted on condition of payment of quitrents, but quitrents were soon abolished. In a few instances attempts were made to establish a sort of feudal system of land tenure in the Southern colonies but such a system of land tenure failed to take root in the Southern states where land was abundant and labor scarce.

However, a plantation system of agriculture soon developed in the coastal plain sections of the Southern states. The soil and climate of these sections were favorable for the growing of commercial staple crops like cotton, indigo, tobacco, corn, rice, and sugar. Navigable rivers made the marketing of these staple products easy. Many indentured white servants were at first imported to help carry on commercial agriculture. Negro slaves were introduced and found profitable, and slavery spread rapidly throughout the South. Large plantations developed. Many country estates were modeled after the estates of the English landed gentry. Social prestige accompanied the ownership of large plantations and many slaves. A large commerce in agricultural staples was built up between the Southern colonies and the mother country. As the demand for staple products increased the plantation system spread inland into the low hill country and far into the southwest. By 1860 the large slave plantation had become the most prevalent form of land tenure in the coastal plain sections of the South.

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[4] Schmidt and Ross, *Readings in the Economic History of American Agriculture,* 1925, pp. 55-72. The Macmillan Co., New York.

Land System of the Middle Colonies and the Piedmont Sections of the South. In New Jersey, Pennsylvania, Delaware, Maryland,[5] and the Piedmont sections of the South, a system of small farms was developed. The soil and climate of these sections were better suited for grain and live stock farming. River navigation for marketing large amounts of staple products was lacking. It was not possible to develop commercial farming. Each farm was more or less self-sufficing. These states and sections were also settled largely by the Scotch-Irish and Germans, who were more interested in founding homes and compact communities than commercial plantations. These Scotch-Irish and German settlements of the Piedmont and mountain sections furnished many of the pioneers who crossed over in the Mississippi Valley and helped plant a similar system of land tenure in the Middle Western states.

Extension of the National Land System. With the establishment of the national government, the acquisition of vast western territories, and the ceding of the western lands by the states to the national government, it became necessary to work out a policy and system for the distribution of the great public domain. The land system that came to prevail in the Middle West and the Far West was the result of many national acts of legislation. The first act of 1796 provided for a system of surveying the land by base lines, townships, and sections, and the division of the land into sections of a square mile each, or 640 acres, and into half sections of 320 acres, for sale to purchasers. After 1862 land was offered for homesteading in quarter sections of 160 acres. On the whole the policy of the national government in distributing the public domain has encouraged extensive farm ownership in small holdings. The recent irrigation acts have had the same purpose—the development of a large number of small home-owned farms.

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[5] Gould, *The Land System in Maryland,* 1720-1765, 1913. The Johns Hopkins Press, Baltimore.

Size of Farms. The family size farm—the farm worked by the farmer and the other members of his family—is the most prevalent type of farm in the United States. The acreage of the family size farm varies with the type of farming followed. In the cotton and tobacco belts 15 to 30 acres furnish employment for the entire family. In the corn belt from 80 to 160 acres would be regarded as a family size farm. In the small grain belt the family size farm ranges from 160 to 320 acres.

The average size of American farms in 1920 was 148 acres, with an average of 78 acres improved. The average size varied from less than 40 acres in some of the Southern states to over 200 acres in some of the wheat states of the Northwest.

In 1920 farms by different size groups were distributed as follows:

	Per Cent
Under 10 acres	4.5
10 to 19 acres	7.9
20 to 49 acres	23.3
50 to 99 acres	22.9
100 to 174 acres	22.5
175 to 259 acres	8.2
260 to 499 acres	7.4
500 to 999 acres	2.3
Over 1000 acres	1.0

Over two-thirds of all farms are included in the three groups in which the acreage ranges from 20 to 174 acres, showing the predominance of the family size farm in the United States.

The size of farms is determined by climate, soils, topography, avaliable markets, labor supply, farm machinery, supply of land, crops grown, types of farming, and the economic and social status of farmers. These factors act together and react upon one another, and determine the size of farms for groups and individuals.

TABLE 8. AVERAGE IMPROVED ACREAGE PER FARM FOR THE UNITED STATES AND NINE GEOGRAPHIC DIVISIONS, 1850-1920. (UNITED STATES CENSUS)

	1920	*1910*	*1900*	*1890*	*1880*	*1870*	*1860*	*1850*
United States	78.0	75.2	72.2	78.3	71.0	71.0	79.8	78.0
New England	39.1	38.4	42.4	56.5	63.4	66.4	66.4	66.5
Middle Atlantic	62.5	62.6	63.4	67.4	68.0	69.2	70.3	70.8
East North Central ..	81.0	79.2	76.3	78.1	76.7	72.1	70.2	62.2
West North Central ..	156.2	148.0	127.9	115.3	85.9	64.7	60.0	54.3
South Atlantic	41.9	43.6	47.9	55.6	56.1	80.7	115.6	120.9
East South Central...	42.2	42.2	44.5	54.5	54.1	65.1	95.5	85.1
West South Central ..	64.4	61.8	52.7	70.9	59.9	49.4	74.0	69.5
Mountain	123.3	86.8	82.9	110.5	88.4	41.8	27.3	39.0
Pacific	102.2	116.1	132.5	182.0	227.6	218.6	133.3	81.2

Table 8 shows the trend in the average improved acreage per farm for the United States and the different geographical divisions from 1850 to 1920. For the United States as a whole the average improved acreage per farm is the same in 1920 as it was in 1850. The average acreage decreased in New England from 66.5 to 39.1, in the Middle Atlantic division from 70.8 to 62.6, in the South Atlantic division from 120.9 to 41.9, in the East South Central division from 85.1 to 42.2, in the West South Central division from 69.5 to 64.4. In the East North

Central and the West North Central divisions there were increases from 62.2 to 81.0 acres and from 54.3 to 156.2 acres respectively. The Mountain division showed an increase from 39.0 to 123.3 acres. In the Pacific division there was an increase from 81.2 acres in 1850 to 227.6 acres in 1880, and then a decline to 102.2 in 1920. The cause of the decrease in the New England and Middle Atlantic divisions was the change from growing grain to dairying and the raising of fruits and vegetables for the local city markets. The chief cause of the very large decreases in the three southern divisions was the breaking up of the large plantations and the development of tenant farming. The decrease in the Pacific division was caused by the passing of frontier conditions and the great increase of small farms in the fruit and dairying regions. The increases in the two central divisions of the upper Mississippi Valley were caused by improvements in farm machinery which enabled farmers to cultivate more land. The increase in the Mountain division was caused by bringing into farms a large amount of grazing land.

B. Farm Ownership and Tenancy in the United States[6]

Tenure Classes in the United States. According to the Census of 1920, farmers of the United States were distributed as follows among different tenure classes:

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[6] Perhaps the best brief study of farm ownership and tenancy in the United States is to be found in the *Agriculture Yearbook*, 1923, pp. 505-600. The writer has drawn heavily on this study in the preparation of this chapter.

	Number	*Per Cent*
Total farmers	6,448,343	100.0
Owners	3,925,090	60.9
Owning entire farm	3,366,580	52.2
Hiring additional land	593,825	8.7
Managers	68,449	1.1
Tenants	2,454,804	38.1
Share	1,117,721	18.8
Croppers	561,091	7.2
Share-cash	127,822	2.0
Cash	480,009	7.5
Standing	104,996	1.6
Unspecified	63,165	1.0

In the United States a fraction more than three-fifths of farmers are owners, and almost two-fifths are tenants. Nearly one-sixth of the owners hire additional land. Farm managers, farmers who conduct farm operations for owners for a salary, are only 1.1 per cent of all farmers. Tenant farmers who constitute 38.1 per cent of all farmers are classified in the Census reports under six heads: (1) share tenants, who pay a share of the product for the use of land, but furnish their own farm equipment and live stock; (2) croppers, share tenants, confined chiefly to the South, who furnish only their labor, the land owner furnishing the equipment and live stock; (3) share-cash tenants, who pay cash for a part of the land they rent and a share of the product for the other part; (4) cash tenants, who pay a cash rental; (5) standing renters, who pay a stated amount of farm products for the use of the land, as two bales of cotton or 200 bushels of corn for the use of a farm; (6) and unspecified tenants.

Local surveys made by the United States Department of Agriculture in fifteen states show that about 10 per cent of farm tenants own farm land. The per cent of farmers who are tenants in the United States is 38.1 as compared with 88.9 in England, 78.9 in Australia, 58.5 in New Zealand, 54.2 in Belgium, 38.5 in Argentina, 36 in Ireland, 26.1 in France, 28.1 in China, 25.4 in Germany, 7.9 in Canada, 28.5 in Japan, and 8 in Denmark.

Trends in Tenure Classes: 1880-1920. Data on tenure classes in the United States have been gathered for each census enumeration since 1880. In Table 9 is shown the per cent of all farmers owners. and managers and tenants in the United States, in the nine geographical divisions, and in selected states, for each Census enumeration from 1880 to 1920.

TABLE 9. PER CENT OF ALL FARMERS OWNERS, MANAGERS AND TENANTS: 1880 TO 1920 (U. S. CENSUS)

	Per Cent Owners and Managers					*Per Cent Tenants*				
	1920	*1910*	*1900*	*1890*	*1880*	*1920*	*1910*	*1900*	*1890*	*1880*
United States ...	61.9	63.0	64.7	71.6	74.4	38.1	37.0	35.3	28.4	25.6
New England ...	92.6	92.0	90.6	90.7	91.5	7.4	8.0	9.4	9.3	8.5
Middle Atlantic ..	79.3	77.7	74.7	77.9	80.8	20.7	22.3	25.3	22.1	19.2
E. North Central.	71.9	73.0	73.7	77.2	79.5	28.1	27.0	26.3	22.8	20.5
W. North Central	65.8	69.1	70.4	76.0	79.5	34.2	30.9	29.6	24.0	20.5
South Atlantic ..	53.2	54.1	55.8	61.5	63.9	46.8	45.9	44.2	38.5	36.1
E. South Central.	50.3	49.3	51.9	61.7	63.2	49.7	50.7	48.1	38.3	36.8
W. South Central	47.1	47.2	50.9	61.4	64.8	52.9	52.8	49.1	38.6	35.2
Mountain	84.6	89.3	87.8	92.9	92.6	15.4	10.7	12.2	7.1	7.4
Pacific	79.9	82.8	80.3	85.3	83.2	20.1	17.2	19.7	14.7	16.8
Ohio	70.5	71.6	72.6	77.1	80.7	29.5	28.4	27.4	22.9	19.3
Illinois	57.3	58.6	60.7	66.0	68.6	42.7	41.4	39.3	34.0	31.4
Iowa	58.3	62.2	65.1	71.9	76.2	41.7	37.8	34.9	28.1	23.8
North Carolina ..	56.5	57.7	58.6	65.9	66.5	43.5	42.3	41.4	34.1	33.5
Georgia	33.4	34.4	40.1	46.5	55.2	66.6	65.6	59.9	53.5	44.9
Mississippi	33.9	33.9	37.6	47.2	56.2	66.1	66.1	62.4	52.8	43.8
Kansas	59.6	63.2	64.8	71.8	83.7	40.4	36.8	35.2	28.2	16.3
Nebraska	57.1	61.9	63.1	75.3	82.0	42.9	38.1	36.9	24.7	18.0
North Dakota ...	74.4	85.7	91.5	93.1	97.9	25.6	14.3	8.5	6.9	2.1

For the United States as a whole owners and managers decreased from 74.4 per cent to 61.9 per cent of all farmers from 1880 to 1920, while tenants increased from 25.6 per cent to 38.1 per cent. There was a considerable increase in the relative number of tenants, and a corresponding decrease in the relative number of owners, in all the geographical divisions, except New England and the

Middle Atlantic states, from 1880 to 1920. The greatest increases in tenancy were in the Southern and Middle Western states. In Illinois and Iowa more than two-fifths of all farmers are tenants, and in Georgia and Mississippi two-thirds of all farmers are tenants. Notable increases in tenancy have taken place in Kansas and Nebraska since 1880, both of these states now having more than two-fifths of all farmers in the tenant class. In a large number of counties in the Middle West more than half of all farmers are tenants, and in many counties in the South from eight- to nine-tenths of all farmers are tenants. The New England and Middle Atlantic states and the Mountain and Pacific states have a high percentage of owners and a low percentage of tenants. Figure 10 shows in what sections tenants are concentrated.

Causes of Extensive Farm Ownership. A number of factors have contributed to extensive farm ownership in the United States. The abundance of cheap land has probably been the biggest factor. For a long time any young man of ambition and energy could become an owner of a farm, if he wished, by migrating to the frontier. An abundance of frontier lands kept land cheap in the old communities and made farm ownership relatively easy. Our democratic inheritance system, by which many farm estates have been divided equally among all heirs, has encouraged extensive farm ownership. The relative scarcity of labor and the relative abundance of land, making labor high and land cheap, have also made the attainment of farm ownership easy in the United States. According to the Census of 1920, 58 per cent of all farm owners had had previous experience as tenants, or wage hands and tenants, or wage hands, and only 42 per cent of owners had become owners directly without previous ex-

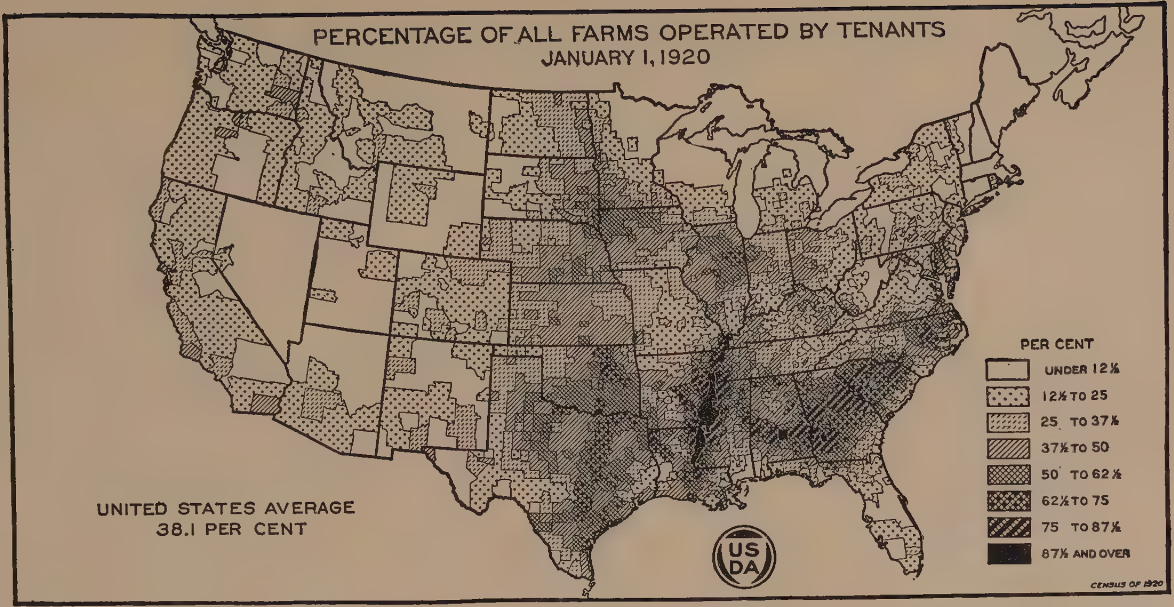

Fig. 10.—The percentage of farms rented is highest in the Cotton Belt, where tenant farms constitute usually from one-half to nine-tenths of the number of all farms. In the Corn Belt and the eastern portions of the winter wheat and spring wheat regions tenant farms comprise from one-fourth to three-fourths of the number of farms. Measured by acreage, tenancy in these regions is relatively more important and in the South less important than when measured by number of farms. Outside these areas tenants, in general, constitute less than one-fourth of all farmers. (*Agriculture Yearbook*, 1922, p. 516.)

perience as tenants or laborers. These figures show that the tenure ladder—farm wage laborer, tenant, part owner, and finally owner—has been relatively easy to climb in the United States. It is very difficult to pass through these stages in an old country where land is dear and labor cheap. In the United States, as in all countries, land hunger, the desire for independent possession and operation of a farm, the feeling of financial security in the ownership of a farm, and the hope of securing gains through the increments in land values have been incentives to farm ownership. The able, the aggressive, the alert, the energetic, and the far-sighted tillers of the soil have found opportunities favorable for becoming land owners and a high percentage of farmers have reached the ownership stage.

Causes of Farm Tenancy. The causes of the development of farm tenancy in the United States are many. They may be classified under two general heads: (1) conditions that cause land to be owned by landlords and let for rent, and (2) conditions that cause farmers to become tenants.[7]

Landlords with lands to rent and tenants desiring to hire land create a rent market. Several conditions cause land to be owned by landlords and offered for rent. (1) Temporary inability of private owners to operate their farms, on account of illness, or prolonged absence from home, or engagement in other business, causes them to rent their land for a short while. (2) Some farms must be rented during short periods of transition of ownership, e.g., between the death of the owner and the settlement of the estate, or during a period of bankruptcy proceedings. (3) Many farmers retire from their farms after they reach the age of fifty or sixty, and rent their farms. They retain the ownership of their farms and rent them either because they wish to receive the annual income from the farms, or because they wish to transmit them to their children after death, or because of sentimental reasons they do not want to part from their farms, or because they believe that land is the safest investment for them, or because there is no ready sale for their farms at the time of retirement. The rising prices of farm products from 1900 to 1920 enabled many farmers to retire at a relatively young age, because the rents from their farms were sufficient to maintain them in retirement. (4) In the Southern states many large plantations remain as a survival from ante-bellum, slavery days, and have been divided into small tracts and rented to tenants, particularly to croppers. (5) The steady increase in land values has caused many people, particularly farmers, to invest their surplus funds in farm lands as speculative adventures, and the farms have been offered for rent while being held for resale. (6) A few residents of cities have invested in farms as hobbies and have rented them to tenants. (7) Some farming land is held as pure investments by corporations and individuals, and rented to tenants.

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[7] *Agriculture Yearbook,* 1923, pp. 522-568.

A number of conditions influence farmers in becoming tenants. (1) Many farmers prefer to rent land temporarily, because they do not expect to continue farming long, or because they expect to remove to another region, or because they wish to acquire experience in farming before they purchase a farm, or because they wish to use all of their capital in equipment and live stock and farm on an extensive scale for the time being. (2) Inability of many young farmers to secure a sufficient sum of money to make the initial payment on high-priced farms today causes them to remain tenants. The average value of farm property per farm is as high as $20,000, $30,000, and even $40,000 in some counties in the United States. The initial payment required on farms of such high valuation is beyond the reach of many farmers, who would like to become owners. (3) High valuation of farm real estate (watered stock) is another cause of tenancy. The high valuations have meant a low return on capital. The average increase in the valuation of farm real estate in the United States from 1900 to 1920 was equal to an increase on a similar investment at a rate of 6.47 per cent compounded annually. In Iowa the increase was the equivalent of an increase from an investment compounded annually at a rate of 8.64 per cent. Because of the high valuations of real estate in many sections, the return on farm lands has been low, ranging from 3 to 5 per cent, and it has not been possible for farmers to purchase farms and meet the annual payments out of their farm incomes. (4) At any given time there is a considerable number of farmers on the tenant rungs of the agricultural ladder, slowly but surely making their way to ownership. They are accumulating surplus capital which they will invest in farms. (5) A large group of farmers, particularly in the South, remain permanently in the tenant class because of personal limitations, such as ignorance, mental backwardness, inertia, lack of thrift and foresight, instability, and poor management. (6) Certain diseases like hookworm and malaria have sapped the vitality of many farmers in the South and helped prevent them from becoming land owners. (7) The wasteful and exploitive credit system in the South, which takes a toll of 20 to 25 per cent of the tenant's income in the payment of excessive time prices is another factor that swells the number of tenants in the South. (8) There is a small group of tenants, who prefer tenancy to ownership, though they are financially able to purchase farms. They do not wish to assume the risks of ownership, or they prefer to invest all their capital in farm equipment, rent a farm, and operate on a large scale. (9) The greatest number of farm tenants is found in those sections where the soil is very fertile and peculiarly adapted to the growing of staple products which can be raised by routine methods and are ready for market in a season or two. Thus tenants are concentrated in cotton, tobacco, corn, and wheat sections (Fig. 10). The tenant usually desires sure and quick returns and the market for the great staple products assures him a ready sale for his products. (10) In the South 75 per cent of the negroes on farms are tenants or croppers. A low economic status resulting from slavery and race discrimination is the chief cause of tenancy among this class of tenants.

Economic Efficiency of Owners and Tenants.[8] (1) *Acreage.* In the North and West the average number of improved acres per farm is greater for tenants than for owners, whereas the reverse is true for the South. In 1920 the ratio of the size of tenant farms to owner farms in the different geographical divisions was as follows: New England, 119 per cent; Middle Atlantic, 133 per cent; East North Central, 141 per cent; West North Central, 108 per cent; South Atlantic, 75 per cent; East South Central, 58 per cent; West South Central, 75 per cent; Mountain, 113 per cent; Pacific, 173 per cent. Thus in all divisions except the three southern divisions tenants are operating larger farms than owners. The reasons for the larger size of tenant farms are that tenants are younger men, in the prime of life, whereas many owners are old men, gradually retiring; that owners have been prevented from acquiring all the land they could operate because of the high cost of land and that tenants by investing all their capital in farm equipment and renting land have been able to expand their farm operations more than owners. The reason for the smaller average size of tenant farms in the southeastern divisions is the cropper system. Many small tracts of land worked by a cropper are really integral parts of large farms or plantations, though they have been enumerated in the census as separate farms.

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[8] *Agriculture Yearbook,* 1923, pp. 569-576.

(2) *Live stock.* Owner farms in general have a larger investment in live stock than tenant farms. In 1920 tenant farms had only 79 per cent as much invested in live stock per improved acre as owner farms and the value of livestock per $100 worth of farm real estate on tenant farms was only 74 per cent of that on owner farms. In most of the northern states the value of live stock per improved acre on tenant farms is from 80 to 90 per cent of the value on owner farms. In the South it is somewhat less. However, local surveys in several states show that the proportion of total farm investment in live stock other than work stock is as large and even larger on tenant farms than on owner farms. Such was the case in Chester County, Pennsylvania, Sumter County, Georgia, and Ellis County, Texas. Moreover, the tenants of the North and West use much more livestock than owners in the South. Again, tenants are usually concentrated in states and sections where staple crop farming predominates and where neither owners nor tenants engage in live stock farming. This fact should always be taken into consideration in comparing the relative amount of live stock on tenant and

owner farms. Farm tenancy is not necessarily an obstacle to live stock farming. In England, where live stock farming predominates, practically 90 per cent of all farmers are tenants.

(3) *Crop Yields and Diversification.* Local farm management surveys made in Pennsylvania, Iowa, Georgia, South Carolina, and Texas show that it is impossible to generalize on comparative yields per acre as between owner and tenant farms. In some crops in the same locality owners are ahead, in other crops tenants are ahead. From present data it cannot safely be concluded that either owners or tenants are superior in yields per acre. In diversification of crops owners tend to outstrip tenants, though there are many localities in which this is not true. The chief reason for less diversification on tenant farms generally is that tenants predominate in those regions where one-crop systems of farming prevail. In the South the owners of large farms rent out as tenant farms small tracts devoted solely to the single crops of cotton or tobacco, and practice diversification on the other parts of their farms. Thus tenant farms in the South suffer in comparison with owner farms in the amount of diversification.

(4) *Farm Income.* A test of efficient farming is the ratio of the farm income to the total farm capital. Owners and tenants may be compared in respect to the ratio of farm income to farm investment without reference to the distribution of income from tenant farms between tenants and landlords. Comparisons of this kind have been made by the Bureau of Agricultural Economics for local areas in Pennsylvania, Iowa, Idaho and Washington, South Carolina, and Texas. In the northern and western areas the ratio of farm income to total farm capital was higher

on tenant farms than on owner farms, though somewhat lower on tenant farms than on part-owner farms. In the two southern areas owner farms without croppers yielded a much higher return on capital invested than owner farms with croppers. Share and share-cash tenant farms showed a higher return than owner farms without croppers. We may conclude that from the standpoint of farm income tenant farms are just as efficient as owner farms.

Economic Status of Different Tenant Types. In respect to their economic status, tenant farmers in the United States may be divided into three main classes: (1) those tenants who have made progress in the accumulation of wealth, including most of the tenants of the North and West and a considerable number of white and colored tenants of the South; (2) the poor white tenants and croppers of the South, who have accumulated little or no wealth; and (3) the great mass of negro tenants of the South, most of whom are croppers.[9] Each one of these three classes constitutes about one-third of the total number of tenants. The tenants in the first class are making economic progress. The great majority of them will become farm owners. They are living in comfortable circumstances. The second class, the poor white tenants and croppers of the South, are backward. They have accumulated scarcely any wealth. Their families are without most of the modern comforts of life. Their standard of living is low. Most of them will not attain to the ownership of a farm. The third class, the negro croppers of the South, are in an extremely low economic status. They are ignorant and improvident for the most part. Their standard of living is very low. They are very much exploited by the exorbitant credit system that has become a millstone around their necks. Only a very small number of these negro croppers will ever become owners. The average amount of wealth accumulated by these different classes of tenants ranges from a mere pittance of $50 to $100 among negro croppers in the South to $8,000 and $10,000 among the tenants in the Middle West and the Northwest. Incomes range from $300 and $400 for negro croppers in the South to $1,200 and $1,500 for the best tenants of the Middle West and the Northwest.

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[9] Yoder, *The Social Aspects of Farm Tenancy in the United States*, 1923, Ch. III. Unpublished manuscript, Ph. D. thesis, University of Wisconsin.

Social Aspects of Ownership and Tenancy.[10] Much has been written and said about the social aspects of land ownership and tenancy. Most of the students of land tenure have set a high valuation on ownership and condemned extensive tenancy, on grounds of social expediency and welfare. They have usually regarded ownership as making for thrifty, industrious, enlightened, self-reliant, well-maintained, stable citizens; and tenancy as making for a servile, shiftless, ignorant, improvident, poorly maintained, exploited, restless, unstable peasantry. In the United States, in particular, the growth of tenancy has been looked upon with disfavor by most people concerned about the public welfare. It is feared that a high proportion of farm tenants will endanger the stability and progress of our social institutions. In general the bad social effects of farm tenancy in the United States have been exaggerated. Many rural social evils have been attributed to farm tenancy that are the result of generally backward rural, social conditions, farm owners being as much responsible for these conditions as farm tenants.

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[10] For data in this section the writer draws heavily on his own unpublished manuscript, *The Social Aspects of Farm Tenancy in the United States,* cited above; and on the summary in the *Agriculture Yearbook,* 1923, pp. 576-582.

A large number of local tenure surveys have supplied data for comparing social conditions among owners and tenants. In Texas, Tennessee, Kentucky, and Nebraska, the average value of owner dwellings was found to be almost twice as large as the value of tenant dwellings. The percentage of tenant dwellings in medium or poor repair was twice as high as for owner dwellings. Data on 2,871 owner farms and 1,973 tenant farms in all parts of the United States show that more than twice as many owner homes as tenant homes are equipped with modern farm home conveniences, such as running water, bathrooms and indoor toilets, electric or gas lighting systems, central heating systems, refrigerators, oil cooking stoves, and vacuum cleaners.

Studies of family living expenditures of owners and tenants in localities in New York, Kentucky, Texas, and Tennessee, 1919-1921, showed that the average value of family living in New York was $2,098 for owners, and $1,938 for tenants; in Kentucky, $2,003 for owners, $1,732 for tenants, and $1,290 for croppers; in Texas, $1,809 for owners, $1,332 for tenants, and $1,111 for croppers; and in Tennessee, $1,325 for owners, $899 for tenants, and $591 for croppers.

Comparative educational advantages of owners, tenants, and croppers are shown in the following figures taken from surveys of 1,066 farm operators in Texas, Tennessee, and Kentucky: average grade in school attained by poorest croppers, 3.3; medium croppers, 3.6; best croppers, 4.6; poorest tenants, 5.0; medium tenants, 5.0; best tenants, 6.2; poorest owners, 5.7; medium owners, 6.3; and best owners, 7.4. The average grade in school attained by wives of farmers ranged from 4.2 for wives of poorest croppers to 8.0 for wives of best owners. The average grade in school attained by children of these different classes above 21 years ranged from 4.1 for medium croppers to 10.7 for the best owners. Data from 1,593 owner farms and 1,493 tenant farms in Ohio, North Carolina, Nebraska, Texas, Kentucky, and Tennessee show the following percentages of owners and tenants taking various classes of periodicals: dailies, owners 70.8, tenants 55.1; agricultural papers, owners 60.9, tenants 46.7; weeklies, owners 59.8, tenants 29.9; magazines, owners 43.2, tenants 28.8.

Stability of Owners and Tenants. As would be expected, owners have a longer tenure on the farms they occupy than tenants. According to the Census of 1920, 43.4 per cent of tenants had occupied their farms one year or less, whereas only 13.6 per cent of owners had had so short a tenure. While 69.2 per cent of owners had occupied their farms five years or more, only 25.2 per cent of tenants had occupied the farms they were operating so long. The per cent of owners and tenants in four selected states, who had occupied their farms only one year or less, was as follows: Iowa, owners 11.0, tenants 35.1; Nebraska, owners 13.0, tenants 34.2; Georgia, owners 17.2, tenants 57.7; Texas, owners 16.9, tenants 55.4. In the South 64.7 per cent of white croppers and 49.1 per cent of colored croppers had occupied their farms one year or less.

The Cropper System in the South. The cropper system of farming in the Southern states calls for special consideration. It grew out of the old slavery system. After the Civil War, the negroes found themselves without land and other capital, and plantation owners found themselves without a labor supply. Hence began the cropper system. The land owners furnished the land, the work stock and implements, and even the subsistence supplies, while the crop was being raised; and the negroes furnished the labor. The plantations were broken up into small tracts of 20 to 30 acres, and rented to negroes who worked the land under the direct supervision of the land owners. Usually small huts were built on each tract for the croppers and their families to live in. This cropper system has become permanent in many sections of the South, especially in the black belt. On some plantations the land owners have a big central barn in which all live stock is kept at night, and during the seasons when work stock is not used for farming. Each morning the cropper comes and gets his mule and returns the mule at night. On other farms each cropper takes care of the mule that he uses during the working season.

The landlord furnishes the land and all other necessary capital. The tenant furnishes the labor. The landlord supervises the operations. The crop is divided equally between the two. These croppers are really not tenants, but wage earners, who receive their wages in a part of the crop. Many of them remain hopelessly in debt practically all the time. They consume their income a season or a year in advance. At the beginning of the spring working season these croppers open an account for supplies with their landlord or with a near-by supply merchant, and give a lien on the crop they will raise during the summer for security. The time prices paid for these supplies are 10 to 25 per cent in excess of cash prices, and take a considerable part of the low income that the cropper makes. Most of these croppers have a very low standard of living, are very ignorant, and many of them improvident and shiftless. They really occupy the status of a semidegraded peasantry. The great mass of them remain in the cropper status all their lives.

The Agricultural Ladder Today. It has been pointed out that many land owners have passed through one or more stages in arriving at complete ownership of their farms. The several important steps in the so-called agricultural ladder leading up to ownership are: (1) farm wage laborer; (2) tenant; (3) part owner, mortgaged; (4) part owner, free of mortgage; (5) owner, mortgaged; (6) owner, free of mortgage. An important question today is whether tenants are climbing the agricultural ladder to ownership as readily as they did in the past. The contention has been made, that owing to the high price of land, a smaller and smaller percentage of tenants are able to reach ownership of farms. One writer holds that in most states only a small number of the best tenants are able to become owners.[11] A number of other writers have stated that while it is still possible for tenants to become owners, it is gradually becoming more difficult, and that the age at which tenants become owners is increasing.

After a careful consideration of the present situation the economists on land tenure in the Bureau of Agricultural Economics arrive at the following conclusions on the possibilities of tenants becoming owners today:[12] (1) In only a few agricultural areas can the average tenant, who employs $600 or more for the family living expenses, pay for a farm in ten years, without a much larger initial payment than usually is possible, though a good many of the best tenants can; (2) in the upper Mississippi Valley an initial payment of 35 to 60 per cent of the value of the farm would be required for the average tenant to pay for a farm in 20 years; (3) since the largest and most difficult step in the tenure ladder is from tenant to mortgaged owner, tenants, in order to accumulate sufficient wealth to make the initial payment on farms must (a) make their farms pay higher incomes than the average tenant does, or (b) obtain the use of land at a lower rental than the average rate of interest on real estate mortgages, or (c) own a part or all of their operating capital at the time of purchase of farms, or (d) use less than $600 for family living expenses, or (e) reduce the cost of production below that for the average tenant by use of labor of members of the family. In general we may conclude that it is somewhat more difficult for tenants to reach ownership today than formerly. Few tenants are willing to have their families live on the low standard of living that prevailed among farmers a generation ago.

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[11] George Stewart, "Can Farms of the United States Pay for Themselves?", *Journal of Farm Economics*, Oct., 1920.

[12] *Agriculture Yearbook*, 1923, pp. 563-568.

C. Farm Leases and Landlord-Tenant Relations

Factors Determining Kinds of Rent Contracts. The main types of renting in the United States are share renting, cash renting, share-cash renting, and renting for a fixed amount of the product grown, as two bales of cotton or 200 bushels of corn for a farm. Landlords usually prefer to rent their land for cash. If tenants have sufficient capital of their own, can manage their own farming operations, and can assume the risks of farming themselves, cash renting is likely to prevail. Under these conditions the landlord is assured of his rentals regardless of the crop the tenant receives, and need not be concerned about supervision and risks. If tenants have little or no capital, need supervision, and cannot make the landlord feel safe in receiving rentals, then share tenancy will most likely be employed. Under these conditions the tenant's success and payment of rentals may depend to a large extent upon the advice and supervision of the landlord. The cropper system in the South is the extreme example of share tenancy, wherein the landlord furnishes all the capital and closely supervises all the farming operations. Share renting usually yields a higher return to the landlord than cash renting, because the landlord assumes more of the farming risks and does more supervising. The young tenant just beginning farming, who has had little or no experience in farming, will usually find share renting of greater advantage than cash renting, because the landlord can help him secure adequate capital, can give him valuable advice and direction in his operations, and can help assume the risks involved. Landlords who live close to the farms they are renting will usually prefer share renting because they can help supervise the farms. Conditions that favor cash tenancy are distance of landlords from farms rented and little or no time on the part of the landlord for supervision. The cash tenant has the incentive to farm more industriously, because he gets all the land produces. A disadvantage of cash tenancy to the landlord is that the desire for the biggest return may lead to soil depletion.

Methods of Share Renting. Methods of share renting in the United States differ materially in the proportion of products grown shared by landlords and tenants, in the amount of equipment and supplies furnished by the landlord, and in the amount of control and supervision exercised by landlords. The *half-share* system is perhaps the most widespread throughout the different sections of the country. Under this system returns are generally distributed half and half between landlords and tenants. In the small grain sections of the West the landlord usually furnishes the seed. In the corn belt the landlord furnishes only the land and buildings and gets one-half the crop or other products. In Ohio, Pennsylvania, and Maryland, where some wheat is grown, the landlord usually allows the tenant to have hay and pasture without charge. In the dairy and live stock sections landlords frequently own half interest in the cattle, hogs, and poultry, and the tenant owns all the machinery and the work stock. In the *one-third* system the landlord furnishes only the land, and sometimes buildings rent free. Often the tenant pays rent for the house and pasture under this system. On a small number of farms, the *one-fourth* system is used, usually in sections of the North and West where land is not good, and in the South where cotton is raised. Under this system the tenant furnishes all the necessary labor and capital, and the landlord gets only one-fourth of the product. In the South where fertilizers are used the landlord usually furnishes one-fourth of the fertilizer under this system. The *cropper* system in the South is a form of the half-share system. The two chief crops grown under this system are cotton and tobacco. The landlord furnishes the tenant a house to live in, a garden, sometimes pasture, and all the tools, work stock, and also makes credit advances to the tenant while the crop is in the making. The landlord supervises all the farming operations closely. The tenant and his family furnish all the labor. The product is distributed equally between landlord and tenant.

Lease Contracts. Practically two-fifths of the farmers of the United States are tenants. The average tenant remains on a farm about three years. The great majority of lease contracts are for one year. Every year about 2,000,000 lease contracts are made between landlords and tenants. It is important in landlord-tenant relations that good forms of lease contracts be used.

Experience has shown what are the best kinds of lease contracts. Desirable qualities of a good lease are: (1) it should be written, to avoid any misunderstandings and to impress upon both landlord and tenant the importance of carrying out the contract in good faith; (2) it should meet such legal requirements as specific statement of the extent and bounds of the farm leased, the length of time it is to run, and the rate of rent to be paid and time of payments; (3) it should be specific on all such minor points, as reservations of the landlord, assurances and guarantees by both tenant and landlord for carrying out terms of the contract, agreements on what both landlord and tenant are to furnish, what privileges are free to the tenant and what to be paid for, how the property of the landlord is to be cared for, the kind of rotation and cultivation to be followed, the amount of live stock to be kept, how the lease is to be terminated, and how provisions are to be enforced. For any single lease there may be other minor points to be included. The aim of the written lease is to put landlord-tenant relations on a definite, business basis, and to avoid misunderstandings and disputes. As landlord-tenant relations become more numerous and permanent in the United States, it will be desirable and advantageous to have good forms of lease contracts worked out for different localities and types of farming by experts who are familiar with the local situations. A number of the state experiment stations are studying the best forms of lease contracts for the different types of farming in their states and suggesting their use to landlords and tenants.

Good Will in Landlord-Tenant Relations. From the point of view of both the tenant and the landlord the renting of land is a problem of personal relations. In every community where tenancy is extensive landlords are evaluated as good, or bad, or neutral by tenants and other residents. Likewise tenants come to be known among landlords as desirable or non-desirable tenants. The good landlord is one who is willing to make a fair contract and faithfully carry it out, who is not exacting to the point of irritation, who provides a decent house for the tenant and his family, who permits the tenant to have a garden and truck patches, and who gives the tenant some leeway in management. Good will between landlords and tenants cannot be secured if landlords insist on using autocratic methods. Honesty, industry, and close regard for the provisions of the lease contract are essential qualifications of a good tenant. In some of the states of the Middle West, the departments of Farm Management of the agricultural colleges have arranged for local community conferences of landlords and tenants, for the purpose of discussing landlord-tenant relations, of putting before the groups some of the best examples of successful leasing methods, and of bringing about a better understanding and good will between landlords and tenants. Many industrial concerns have found that the establishment of good will between employers and employees pays in dividends, and the good will of the workers is the greatest asset to the business. Landlords can well take a leaf from the notebooks of these industrial employers. Rented farms will make the biggest incomes for landlords under a system of willing cooperation.

Social Aspect of Leases. A good leasing system must give attention to broad social considerations. The leasing system should be designed to give both the landlord and the tenant the maximum interest in maintaining the fertility of the soil and in the permanent improvement of the farm. The public is interested in the best permanent agriculture. In England the custom is to compensate the tenant for permanent improvements made on the farm.

A second essential feature of a good leasing system from the social point of view is that it provide for a fair rent. No doubt it is often rather difficult to determine what a fair rent is. A fair lease has been described as "one in which each party contributes to the expenses in the same proportion that he shares in the proceeds." Since conditions of agriculture are constantly changing, a fair lease should provide for changes in the lease from time to time. Perhaps a good way to meet this need is to make the lease run for one year, renewable at the end of the year, if both landlord and tenant are satisfied. This method of leasing gives landlords and tenants an opportunity to make needed readjustments.

A third factor that should be considered in a social evaluation of a leasing system is the effect upon the stability, or the length of residence of tenants. If tenants are moving constantly it is impossible for them to become an essential part of the social and institutional life of the rural community. Hence an aim of any good leasing system must be fairly permanent tenure on the part of tenants. The lease should make it desirable to the tenant to remain on a farm for a sufficient length of time to permit a development of interest in the social and institutional life of the community. More permanent residence of tenants is greatly needed in most of the sections of the United States with a high percentage of tenants.

And finally it must be recognized that a stable and contented tenantry cannot be built upon a system of exploitation, upon the theory that tenants exist simply for making profits for landlords. A good landlord is one who recognizes that tenants and their families are entitled to a good standard of living, opportunities to share in the social advantages of a community. The children of tenants need good rural schools. Sometimes landlords bring pressure to bear on tenants to vote against school taxes and other taxes for community betterment because the landlords do not want to pay the increased taxes that such improvements entail. Such attitudes on the part of landlords are to be condemned. Some landlords have set examples of wise concern for the social welfare of the community in which their tenants live by taking the lead in advocating and supporting good schools and other local betterment projects.

American Landlords. Fortunately there are few absentee landlords in the European sense in the United States. Most landlords in the United States are living on farms, or have lived on farms. Many landlords are related to their tenants, and most landlords know and deal with their tenants personally. In the North a very large number of landlords are "retreating" farmers who are gradually retiring from their farms. These landlords have a personal and rather intimate relation with their tenants, often advising with them about operating the farm, furnishing all or a part of the capital and helping manage the farm. A recent study of 57,000 tenant farmers showed 23 per cent of them related to their landlords.

The proportion of tenants related to landlords varied from 2 per cent in nine Southern states to 36 per cent in the North Central states. No doubt a large number of these related landlords had something to do with the management of their farms. In 1900 an investigation of the Bureau of the Census showed that 78 per cent of landlords lived in the same county in which lay their rented farms. A special study made of 270,000 farms in 1920 showed that 80 per cent of landlords lived in the county in which their farms were located, 11 per cent in adjacent counties, and 9 per cent in more remote districts. A further study of 27,000 landlords showed that 36 per cent of landlords in the North and 30 per cent in the South were engaged in some other pursuit than farming, whereas 37 per cent in the North and 67 per cent in the South were actually residing on farms, while they were renting out one or more farms. Outside of the South and a few counties in other states, there is little concentration of land ownership in a few hands. In 1900 only 22 per cent of landlords in the United States owned more than five farms each, and in 1920 only 25 per cent owned more than five farms each. In 85 selected counties in the North in 1920, less than 4 per cent of tenant farms were owned by landlords owning as many as five rented farms. The great majority of landlords in the United States have grown up on farms, more than 90 per cent of them have actually engaged in the operation of a farm themselves, and a large number of them have achieved ownership of their farms by their own efforts and thrift. On the whole the relations between landlords and tenants in the United States have been personal, friendly, sympathetic, and fair. Except in the South, landlords have usually regarded tenants as belonging to their own social class. All these more or less intimate connections have tempered landlord-tenant relations in the United States.

Class Conscious Tenant and Landlord Organizations. In the last two decades a number of spasmodic landlord and tenant organizations have sprung up in different sections where farm tenancy is extensive. These organizations have shown a sharp class consciousness on the part of tenants or landlords. They have usually been short lived. Their chief significance is as a warning of discontent on the part of tenants in some of the sections with a high percentage of tenants. The most notable examples of these class conscious tenant and landlord organizations have been in Texas, Oklahoma, Missouri, and Illinois. Through these organizations tenants have aimed to force a reduction in rents, to secure better houses to live in, and to obtain certain minor privileges in renting. In some instances, as in Texas and Oklahoma, the tenant organizations have entered politics and attempted to secure legislation that would favor and protect them in their position. Landlords have countered with organizations to protect their interests. We may expect more of these class organizations in the future, if tenants and landlords believe that their interests diverge and conflict. A wise social policy will attempt to forestall such conflicts. The relations of landlords and tenants in these sections with a high percentage of tenancy and growing tenant unrest ought to be carefully watched by statesmen. Social legislation may be necessary to correct abuses that exist and to protect tenants against arbitrary and unwarranted treatment by landlords, and to protect landlords against irresponsible desertion of farms by tenants in critical growing seasons.

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CHAPTER VII

LAND POLICIES

A. NATURE AND SIGNIFICANCE OF LAND POLICIES

Meaning of Land Policies. By land policies is meant a conscious planning of the use of land by some group, either the nation, or a state, or a county, or a community, or an organization of private citizens. Policies imply aims, goals, social direction and control, and conscious striving to achieve definite ends. The objective of a land policy may be extensive land ownership, or a large number of small or moderately small holdings, or well-planned rural communities, or large production, or national security, or a combination of several of these ends. Historically the land policies of states and nations have consisted of a series of legislative and administrative acts more or less related and coordinated.

Land Policies in History. In all advanced, civilized communities land problems and policies have occupied much of the attention of social reformers, statesmen, and governments. In ancient Palestine the Hebrews attempted to prevent land monopoly and the exploitation of the small cultivators by the large landholders by a periodic redivision of the land. In ancient Greece land laws were enacted limiting the amount of land held by one individual, making land inalienable to prevent large accumulations, and providing common repasts for all the people. The land problem was one of the biggest problems of the

Roman Empire in its declining years, and a long series of legislative measures was enacted to control the land for the welfare of the peasant farmers. The unequal distribution of land and restrictions on its use by the peasant farmers were important causes of the French Revolution. French governments were occupied many years after the Revolution in the redistribution of the land. Since the beginning of the sixteenth century the English people have had a land problem, and even today some writers and statesmen in England are saying that the land problem is by far the biggest agricultural problem in the British Isles. All over Eastern Europe today the land problem is the most troublesome social, economic, and political problem. Because of the great abundance of cheap land in the United States, no serious land problems have yet developed in this country. But with the growing scarcity of good farm lands, we may expect land problems to develop in the future. It will be wise for our statesmen and all those specially concerned about rural social welfare to anticipate these land problems and to formulate land policies that will insure the best distribution and use of our land supply.

Need of a Land Policy in the United States. In the United States today we are in special need of a more definite and carefully planned land policy. Our cheap land supply has been exhausted. Population is increasing. The time is appraching when most of our best lands will be needed to produce our own national food supply. Conservation of our natural land resources has become a social movement of national importance. There are many acres of land unfit for cultivation now that may be reclaimed, but at much higher costs per acre. In many local sections demands are being made by local patriotic clubs and organizations for national and state aid in reclamation projects. On the other hand, various groups of farmers have passed resolutions asking that no more new lands be opened up for cultivation in the present state of our agriculture.

The social phases of land policies have also come to the front. The higher standard of living among farmers of the United States today makes them averse to enduring the privations of an earlier frontier period in developing new farming areas. We are learning something of the advantages and possibilities of community development in new regions, where farming lands are being opened up. Undeveloped farming lands in many local sections are owned by corporations, land companies, or held in large tracts by private individuals, who are interested chiefly in disposing of these lands at a profit, without regard to the future effect upon the individual purchaser or the economic status of agriculture in general. Agricultural economists are beginning to understand more clearly the relation between the improved land supply and agricultural prices and the farm standard of living. Farm tenancy continues to increase and many people are beginning to demand state aid in helping tenant farmers become owners. All of these new phases of the land problem show the pressing need of a definite, comprehensive land policy in the United States at the present time.

Difficulties in Forming Land Policies. At the outset it must be recognized that formulating and carrying out a land policy is a difficult, slow task. People in general have little ability to look ahead and previse a social system adequate for future needs. They know little history. The lessons that could be learned from the past are closed to them. Only immediate problems challenge their attention. Inertia and conservatism blind them to the problems of the future. The propertied and well-fixed class wish to maintain the *status quo*. The classes who stand in need of land reform and new land policies are without sufficient enlightenment to know their value and they remain indifferent about them. Extensive social land policies entail a cost opposed by a large number of taxpayers. In the United States both the national and the state governments are interested in promoting and developing agriculture, and problems of cooperation and articulation in land development policies arise. In the state and national legislatures conflicting local interests and indifference to legislation other than that which promises distinct local benefits make it difficult to get the kind of legislation necessary for a well-ordered land policy.

B. NATIONAL LAND POLICIES OF THE UNITED STATES[1]

The Public Domain. A study of the land policies of the United States must begin with the public domain, which has included all lands owned by the national government. Texas is the only state that has owned and distributed public lands. Though the national government has already disposed of the greater part of the public domain, it still possesses a large amount of land, most of which is inferior or not suited for agriculture. At the beginning of our national existence seven states had claims on the lands lying west of them, between the Appalachian Mountains and the Mississippi River. These states claimed these lands on the basis of charters that had been granted them as colonies. But after the War of Independence those states that didn't have claims on western lands contended that they should have equal rights in these lands because of the common sacrifice they had made in the war. The matter was settled by all the states ceding their western lands to the national government. These ceded lands were the beginning of the public domain. From 1800 to 1853, the national government gained possession of all western lands to the Pacific Ocean. The entire public domain was acquired as follows:

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[1] The author wishes to acknowledge his indebtedness to Prof. B. H. Hibbard's book, *A History of the Public Land Policies*, which has furnished the outline and most of the data for this section of this chapter.

	Acres
Ceded by the States	267,730,560
Louisiana Purchase	432,987,520
Florida Purchase	32,332,160
Texas Purchase	70,955,520
Oregon Acquisition	166,083,840
Acquired from Mexico	324,993,280
Gadsden Purchase	14,508,800
Total	1,309,591,680

Out of this vast public domain have been carved three-fourths of the states, and millions of farms.

The Early Revenue Period. In its beginning the new national government was in debt and in sore need of revenues. Sources of revenue were scarce. The new government possessed the great national domain. Pioneers were beginning to migrate to the western lands. Naturally the Federal Government adopted the policy of selling the public lands primarily for the purpose of securing revenues. The restless settlers on the frontier needed to be attached to the new national government. The government began to survey these western lands and offer them for sale in both small and large tracts. Soon questions developed as to the size of tracts that should be sold, conditions of settlement, credit, and where sales were to be made. In 1796 Congress passed the first comprehensive land act. The act provided for the famous rectangular surveys, the laying out of townships, division of one-half of the townships into mile-square sections of 640 acres to be sold at the local land offices, the sale of the other half of the townships at the seat of the general government, the reservation of four sections at the center of every township, and fixing the sale price at two dollars an acre, one-twentieth to be paid down and the remainder by the end of the year. In 1800 the law was amended, allowing payment of one-fourth down and the rest in four annual installments. Under this plan many farmers became indebted to the government and could not pay out. The government then passed a number of relief measures. There was much speculation in the lands bought and sold during this period. In 1820 the government returned to the principle of cash sales, but reduced the price to $1.25 an acre. Under the cash and credit sales system the government has disposed of something over 220,000,000 acres of the public domain.

National Development and Preemption. The early revenue system for disposing of the public domain did not prove very successful. The government never gained a great deal of revenue from it. From 1800 to 1825 other sources of national revenue began to yield sufficient public funds. Western representatives in Congress began to develop new theories as to the disposal of the public domain. The main idea of these western statesmen was that the public domain should be used to encourage public improvements that would facilitate trade and commerce between the western and eastern states. Also they contended that the great public domain should be so distributed as to encourage rapid settlement and the development of a strong nation. These statesmen began to argue in Congress that the public lands belonged to the people and that settlers should be able to get farm lands on the easiest terms possible.

The first outstanding step in line with this new theory was the Preemption Act of 1841. Preemption gave the "settler the right to settle on and improve unappropriated public lands and later buy them without competition." Settlers were allowed to settle on tracts of not over 160 acres or less than 40 acres before such lands were offered for sale. They were required to erect houses on the land and improve a part of it. When the land was offered for sale the settler had the first right to purchase at the minimum price of $1.25 an acre. The preemption act was in force with various modifications down to 1891.

Free Land—the Homestead Act. The theory that the western lands belonged to the people and should be had on the easiest terms possible culminated in the Homestead Act of 1862. As the country developed and a large number of settlers migrated to the frontier, the demand gradually grew that the public domain be thrown open to settlement on the most liberal terms and that a nation of small home-owning farmers be firmly established. Labor groups, new liberal parties, and particularly the Free Soil party championed the cause of free homesteads. The supporters of this movement contended that the public lands belonged to the people, that those lands should not be sold to speculators, and that they should be held as a sacred trust by the government and freely distributed to actual tillers of the soil. While the Civil War was raging statesmen in Congress began to discuss what should be done for the soldiers on their return to civil life. Give them a farm on the frontier, was the answer. The soldier was the occasion for bringing the long-agitated theory of free land to practical fruition.

In 1862 Congress passed the Homestead Act. The act provided that the settler could acquire claim to a farm of 160 acres, free of all charges, except a small filing fee, by living on the homestead for five years, erecting a house on it, and working a part of the land. At the end of five years the settlers could then get free title to the land. Time spent in the army could be counted as the equivalent of time lived on the land. In 1880, Donaldson, perhaps our best student of the public domain, praised the Homestead Act as follows: "The Homestead Act is now the approved and preferred method of acquiring title to public lands. It has stood the test of eighteen years, and was the outgrowth of a system extending through nearly eighty years, and now, within the circle of a hundred years since the United States acquired the first of her public lands, the Homestead Act stands as the concentrated wisdom of legislation for settlement of the public lands. It protects the government, it fills the states with homes, it builds up communities, and lessens the chances of social and civil disorder by giving ownership of the soil in small tracts to the occupants thereof. It was copied from no other nation's system. It was originally American, and remains a monument to its originators."

From 1862 to 1923, 213,867,600 acres of the public domain were disposed of to settlers under the Homestead Act. A million and a third of new homesteads have been taken up under the act. In 1916 the Homestead Act was amended to provide for a maximum homestead of 640 acres on lands designated as "stock-raising" lands by the Secretary of the Interior. The Homestead Act has proved to be the wisest of all the legislative acts providing for the distribution of the public domain.

The Timber Culture Act. In 1873 Congress passed the Timber Culture Act, which provided that any person who would plant and cultivate forty acres of timber for ten years could secure title to a quarter section of land, of which the 40 acres planted to timber was to be a part. The law was later amended so as to provide for planting ten acres and residence on the land for eight years. The law was used by many persons to secure lands fraudulently. From the standpoint of administration the law was almost a complete failure. Nevertheless, over 44,000,000 acres of public lands were distributed among settlers under this act. The law was finally repealed in 1891.

The Desert Land Acts. As soon as all the good arable lands in the West had been taken up settlers began to turn their attention to the dry lands. It was easily recognized that land laws that fitted the agricultural development of the Middle West were not suited for the agricultural development of the arid and semi-arid lands of the West. In 1877 the Federal Government passed an act providing for the preemption of dry lands, for the sale of land in whole sections, which land was to be irrigated within three years of filing. A payment of twenty-five cents an acre was to be made at the time of filing and an additional dollar an acre when requirements of the law had been met. The law never worked well because many people took advantage of it to get land without developing the land. The bill was amended in 1891, providing for improvements to the extent of $3.00 an acre, to be paid at the rate of one dollar a year. Water had to be accessible for all the land and one-eighth of the land cultivated.

Associations for watering the land could be formed only by citizens of the states wherein the land was located.

In 1894 the Carey Act was passed. This act provided for the donation to state government of a quantity of land not to exceed 1,000,000 acres for each state, which lands the states were to cause to be settled, irrigated, and partly cultivated. The Federal Government agreed to give patents either to the states or settlers when the requirements of the law had been met. The Census of 1920 showed something over 500,000 acres irrigated under this act.

In 1902 the Reclamation Act was passed, by which the Federal Government develops irrigation projects with funds secured from the sale of public lands. Settlers on the Reclamation projects, in order to secure title to their lands, are required to pay for the cost of irrigating the land by annual payments not in excess of ten dollars, to reclaim at least one-half of irrigable land at entry, and to live on the land three years. The Reclamation Act was a definite step towards a national policy of conservation. To date 26 projects, containing 1,175,000 acres, have been developed at a cost of $135,000,000. A very large number of the settlers on the reclamation projects have not been able to meet the annual payments required by the government and various relief measures have been passed to alleviate settlers. It would seem that many of these projects were developed before there was sufficient demand for products grown on the land at prices that justified the expenditures for reclamation and development of the land.

Grazing and the Public Domain. Farmers have always assumed the right to graze the public domain, and till lately with very little interference or restriction. A great industry grew up on the frontier known as the range cattle business. Animals were kept in herds and guarded chiefly by cowboys, particularly in the prairie states of the Middle West and Far West. Later when barbed wire had become cheap many individuals and companies fenced in great tracts of the public domain. The range live stock industry was always just beyond the line of permanent settlement. As settlers began to catch up with the range and file homestead claims, they began to complain about the range fences. In 1885 Congress passed an act requiring fences to be taken off the public range. Since then public lands have been open to all for grazing with little or no control over them. Many lands have been overgrazed. Lately a lease system has been recommended.

Within the national forests a policy of leasing and control has been long followed. The number of animals is limited and preference given to settlers living within the forest reserves. Fences are being tried. Through this policy of lease and control the productivity of the forests has been restored and range wars have been stopped. The forests have helped promote the live stock industry. Millions of cattle and sheep are now being grazed by permit in the national forests.

Other Land Grants. Many millions of acres of the public domain have been granted to soldiers, to internal improvement companies, and educational institutions. Beginning before 1800 and coming down to 1855, the government passed acts granting 68,239,000 acres of land to soldiers for military services. Grants of land for internal improvements, such as roads, canals, and railroads, have been frequent. From 1820 to 1860 many acres of land in the eastern states were granted for the improvement of roads, canals, and rivers. By far the largest grants of land were given for the building of railroads west of the

Mississippi River. There was a great demand for transcontinental railroads and over 129,000,000 acres were given to the railroads. The lands given to the railroads were eventually sold to settlers, most of them at relatively cheap prices. The government has followed a liberal policy of granting public lands for education. At first one section of land in each township was set aside for education. Later four sections were set aside for this purpose. In 1862 Congress passed an act giving each state 30,000 acres of land for each member of Congress that it had, to help maintain agricultural and mechanical colleges. The money received from these lands was to be invested in safe securities. Directly and indirectly the government has given over 100,000,000 acres for educational purposes.

National Land Policies in Retrospect. Professor Hibbard in the last two chapters of his book, *A History of Public Land Policies,* traces the effects of national land policies on agriculture and attempts to evaluate these policies. A brief summary of his views is here given. From 1850 to 1890 the rapid disposal of so much good land brought a period of over-production of farm products, low prices, and hard times for farmers, particularly for farmers in the eastern states. The rapid disposal of the public domain made agriculture very competitive. From 1860 to 1907 the prices of farm products were lower than the prices of other commodities. Contrary to the views of many advocates of free land policies, the giving away of many millions of acres of free land did not make all farmers land owners. By 1910 nearly two-fifths of the farmers of the United States were tenants. Also tenancy was relatively high in some of the newer middle western states, where many farmers still owned their original homesteads.

During the century and one-third that public lands were being distributed, no attempts were made to adjust the distribution of farming lands to the consumptive needs of the country. Congress and the people assumed that a wide diffusion of ownership would bring prosperity to the nation and to the farmers. Politics would hardly have permitted the planning and following out of a wise land policy from the economic point of view. The competition of the thousands of poorly rewarded men on farms with men in shops kept the incomes and wages of both low. The affairs of the pubilc domain were often tied up in politics and much fraud was practiced in getting lands. There was no board or commission to administer the land laws and to follow and study the economic consequences of distributing the land. Grazing lands have not been handled wisely, not always granted in sufficiently large tracts to make them economical units. Desert lands have been reclaimed without much attention to the real need for more productive lands in use and without reference to the economic aspects. On the whole the public lands have been distributed without a definite, sound, careful, economic policy.

C. Practical Land Policies

Land Policies for the Future. The people of the United States will become more and more concerned about the utilization of land in the future. As population grows and a greater maturity in national life is reached, land problems will press for public attention. The first requisite in following out any land policy should be a careful analysis of the economic and social factors involved. The agricultural economist should furnish the statesman and the law-maker the economic data upon which wise land policies must be based. In the past the economist has had too little to do with the legislation affecting the distribution and utilization of the land. Premature development of certain lands, low prices, hardships and sufferings among settlers can be avoided by careful planning. New lands should not be reclaimed and developed, except as there is a demand for increased amounts of agricultural products at prices that will insure profitable farming.

The farmer and the business man of the city need to understand the primary economic elements of land utilization. Farm leaders, the agricultural press and the urban press, agricultural colleges, and agricultural economists can render a most valuable service in emphasizing the need of proceeding with further land reclamation only as the farming of new lands promises to be profitable. The national and state governments, through their special agricultural agencies, can do much to avoid mistakes and make further land development economically and socially successful by studying the needs for increased farm products, by advising the public of these needs, by classifying lands, so as to be able to advise the best use of the different kinds of land, and by helping settlers finance and develop new lands. In our procedure with new land developments we can also profitably study the experience and practices of other nations in their attempts to solve land problems.

Objectives in Land Policies. From the standpoint of public policy the objectives of land policies are: (1) to secure a maximum production from the land for the sustenance of the entire people of the nation; (2) to conserve the fertility of the land for future use; (3) to aid in the development of new lands to the extent that farming on the new lands is economically profitable; (4) to help plan the new land developments so that satisfactory social life among the settlers is attained; and (5) to control and regulate the tenure of land so that those who work the land get a fair reward for the efforts they expend in farming the land. A well-rounded land policy must be shaped with these five objectives in view. If these objectives come into conflict it is the business of the state to reconcile them and bring them into harmony. We can best see the objectives in land policies by reviewing briefly some of the recent land policies of different countries. The wise procedure to follow in establishing a land policy is first to study carefully the experience of those nations and states that have attempted land reforms.

Ireland. The little country of Ireland is reputed to have had at one time the most unfortunate land system in the western world. The situation has been greatly changed in modern times by a new land policy promoted by the British Parliament.[2] Beginning early in the fifteenth century most of the land of Ireland was confiscated and taken away from the native Irish because of rebellion, and given to English and Scottish landlords, who were to help hold the rebellious Irish in restraint. The great majority of the Irish people became tenants on these large estates. At first most of the foreign landlords came to live on the estates, but later absentee landlordism became the general practice. The population increased very rapidly among the Irish tenants, the competition for land became sharp, and rents rose. Tenants got behind in their rent payments. Many were evicted from the land. Bitterness, despair, and violence arose. Conditions among the tenants became almost intolerable. It became necessary for the government to intervene.

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[2] See article on Ireland, *The Americana,* Volume XV.

At first special courts were established to fix rents and tenure. In 1886 Parliament made an appropriation to provide loans to tenants for purchasing small holdings on the basis of 4 per cent annuities. Lately the appropriations have been greatly increased and the aim has been to enable all peasants to buy small holdings. Compulsory sale of big estates on a fair rental basis is now required. The purchaser of a small holding now pays 3½ per cent a year on the purchase price, 3 per cent interest and ½ per cent on principal, and the debt is paid off in 68 years. Up to 1915 nearly 300,000 holdings had passed into the hands of owners and 100,000 additional holdings were in process of passage to owners. These 400,000 holdings comprise more than three-fourths of the soil of Ireland. The policy of helping the Irish tenant to become the possessor of a small holding has done much to change him from a reckless, turbulent fellow to a thrifty, peaceful citizen, from a bad farmer to a good farmer.

England and Wales. England and Wales are countries of large estates, a few landlords, and many tenant farmers. Eighty-five per cent of the farmers in these countries are tenants. In 1892 the Small Holdings Act was passed, authorizing the local governments to borrow money, buy lands, and sell small holdings from one to fifty acres to landless farmers, 20 per cent of the purchase price to be paid at time of purchase, and the remainder over a period of sixty years.[3] In 1907 the Act was amended, providing for compulsory acquisition of estates by the local government, division into adapted holdings, with fences, drains, and buildings, and sale or lease of land to individuals or associations. Up to 1914, 46,660 individuals and 96 associations had applied for 782,000 acres of land under the acts. The success of small holdings in England and Wales has been due largely to the growing urban demand for such products as fruits, vegetables, milk, and poultry and eggs, the production of which can be carried on successfully on a small scale, requiring considerable hand labor and little capital. Special care has been taken by the local county councils in selecting farmers who promise to be successful in this kind of farming.

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[3] Ogg and Sharp, *Economic Development of Modern Europe*, pp. 166-169.

Denmark. Half a century ago most of the land in Denmark was held in large estates by a few big landlords. Ninety per cent of the land was farmed by tenants. Wages were low and thousands of Danes were migrating to new countries. The tenants had no right to independent ownership of the land. But in 1875 a law was enacted providing for the establishment of credit banks, which received state aid, which banks were to help landless farmers buy farms.[4] The state has continually increased the appropriations for the purchase of small holdings and now has a large revolving fund for this purpose. The small holdings range from five to twenty acres. The maximum amount loaned on a holding is about $4,400. The loan is made at 4 per cent interest, with only interest to be paid during the first five years, and the entire loan to be repaid in 98 years. Today 90 per cent of the farmers of Denmark are owners of their farms. Special farm management demonstration schools for small holders and cooperative selling and buying have helped make small holders successful in Denmark.

Eastern Europe. Before the war most of the vast country of eastern Europe, stretching from the Balkans to the Black Sea, and including what is now Esthonia, Litvia, Poland, Roumania, Hungary, Czechoslovakia, Bulgaria, and Western Russia, was held in large estates by big landlords and worked by tenant peasants. The old feudal manorial system had lasted in this part of Europe down into the latter half of the nineteenth century. After the freeing of the serfs, a sort of capitalistic farming developed, in which the tenants were greatly exploited. The tenants became very bitter against landlords. In the great upheaval in these countries during and after the war, the landless peasants came into possession of the suffrage. Strong agrarian parties have been formed and have come into power, and great land reforms in all these countries have been made.[5] The land reforms in these countries have the following features in common: (1) compulsory sale of large estates to provide small holdings; (2) setting of a maximum area which estate holders are allowed to retain, varying from 150 to 800 acres in different countries; (3) purchase price of small holdings to be repaid to state on small easy payments over a long period of time; (4) provision through banks of small loans with which to secure capital to begin farming; (5) establishment of holdings of such a size as will afford a family a normal standard of living; (6) provision for reversion of holdings to the state in case of mismanagement; and (7) establishment of a state commission or department in the government with strong regulatory powers over the land.

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[4] Mead, *Helping Men Own Farms*, pp. 45-54.

Areas available in some of these countries for small holdings are as follows: Hungary, 3,000,000 acres; Roumania, 28,800,000 acres, Latvia, 7,000,000 acres; Czechoslovakia, 2,350,000 acres; Poland, 3,600,000 acres. As an example of what is expected to happen in the way of a redistribution of the land under these new land laws, the Roumanian Minister of Agriculture has said that twelve million acres have passed from large owners to one and one-half million heads of peasant families, and that when the reform is completely carried out, 28.8 million acres out of 31.2 million acres will be distributed among four million peasants in separate lots, varying from 2.4 acres to 12 acres; while 2.4 million acres will remain among 6,000 owners with an average of 240 to 480 acres per estate.

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[5] Ogg and Sharp, *Economic Development of Modern Europe*, pp. 650-653.

Victoria Settlements. The State of Victoria, in Australia, began state aid to help landless farmers become owners about two decades ago.[6] A settlement Commission was appointed for the administration of the land settlement act. The Settlement Commission buys large tracts of land, builds water canals, divides the land into family-sized farms, gets the land ready for cultivation, and constructs farm buildings on the tracts as each settler is ready to occupy his farm. Settlers pay for their farms in 31½ years, on the amortization plan of 6 per cent per annum. They are required to pay 3 per cent of the value of the land at the time of purchase, and 10 per cent of the value of buildings. The state furnishes agricultural advisors and superintendents for each settlement district, who help the new settlers get started in their farming operations. The state also aids settlers in buying live stock and in forming cooperative buying and selling organizations. The Settlement Commission has helped lay out towns and service centers in the settlement districts. Settlers buying farms are not allowed to transfer, assign, mortgage, or

[6] Mead, *Helping Men Own Farms*, Chs. V and VI.

lease their farms till they have made full payment for them and received clear title to them. The outstanding feature of the Victorian Settlement Plan is the close working partnership between the government and the individual settlers.

The California Settlements. The most successful examples of public land settlements in the United States are in the state of California.[7] The settlements in this state have been modeled largely after the Victorian settlement of Australia. The state has appropriated funds for the purchase and improvement of lands. The Land Settlement act is administered by the Board of Land Settlement. The board purchases the land, constructs irrigation ditches, divides the land into small tracts, and helps settlers construct buildings on the tracts they purchase. In the Durham and Delhi settlements the board has given special attention to rural planning, attempting to provide those social institutions demanded in a modern rural community. Settlers pay for the land over a period of 36½ years. They are loaned money by the board to complete the development of their lands and to purchase needed live stock and other farm equipment. In laying out the settlements the board has given special attention to those conditions that affect the success of the settlements, such as soil, size of farms, types of agriculture, water supply, markets, health, education, and social life of the settlers. The California settlements came into existence just before the agricultural depression of 1920. Many settlers had difficulty in making their payments. It is still too early to judge as to the success of the California settlements. However, the principles upon which the Board of Land Settlement has proceeded in aiding settlements seem to be economically sound. The land settlement experiments in California should be studied carefully by the officials of other states, who are beginning to establish state settlements.

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[7] Mead, *Helping Men on Farms,* Chs. VIII-XIII.

Private Land Settlements. In a number of states, particularly in the lake states of Michigan, Wisconsin, and Minnesota, private land companies have promoted land settlements.[8] Most settlers going out on new land do not have the capital to buy land and improve it, or to construct buildings and to buy live stock and other farm equipment. The private land companies undertake to supply settlers with farms improved for occupancy. The land companies have learned that unless settlers are provided with certain essential equipment they are apt to fail in their endeavor to gain possession of a farm and meet payments on the land promptly. Promoters of these private land settlements are of several different types. There is the land agent who only sells the land of some one else on a commission. There are land dealers who are purely speculators, buying land and reselling it as soon as buyers can be found. These two classes usually make no attempt to get settlers started on the land. They have no further interest in the settler than to sell him the land at a given price, leaving him to make good the best he can.

However, there are a number of land companies that buy land in large tracts, subdivide it, improve a part of it, erect buildings, sell the farms to settlers on long-time payments, and continue to advise settlers in their farming operations till they have become firmly established. As an illustration, a private land company in Wisconsin may be cited. The company selects the land with care and subdivides it into 40- and 80-acre farms. The whole tract or countryside is planned with reference to streams and contour of the land. Roads, schools, and community halls are located in proper places. Also cheese factories, creameries, stores, and banks are established by the company, to be taken over by the settlers later. Towns are also planned and laid out. The company operates an experiment farm to demonstrate what settlers can grow and employs agricultural advisors to assist the settlers. It also hires horses to the settlers. The land is paid for by the settlers in 30 years. A deed to the land is given the settler after a certain number of payments have been made. This company has found it to be good business to assist the settlers to get a good start on their farms. Private companies of this kind are rendering a very valuable service to inexperienced pioneers just going out on the land.

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[8] Ely, *Land Policies*, pp. 23-29; Black and Gray, "Land Settlement and Colonization in the Great Lakes States," Dept. Bul. 1295, U. S. D. A.

Land Settlements and Public Interest. The state should have a keen interest in land settlements, whether they be public or private settlements. In the case of private settlements the state, through its land commissioner or commissioner of agriculture, should see that settlers are not defrauded by being sold worthless land or land at prices too high for profitable farming. Methods should be devised to prevent the sale of submarginal lands. Prospective settlers need to be advised about the soil, types of farming possible, available markets, and social advantages. Too often city dwellers are led to believe, through advertisements and high-power salesmen, that any inexperienced person who wishes to farm and is willing to work can go out on a small farm and succeed. This is a serious misrepresentation, and the state can save green prospective settlers much unhappiness and hardship by warning them against buying certain lands on which they have little chance to succeed. Every private settlement scheme should have the approval of some state official or commission acquainted with agricultural conditions in the state.

Whether in private or public land settlements, certain principles should be followed[9]: (1) land should be carefully selected and classified; (2) costs of clearing the land and bringing it into cultivation should be carefully determined; (3) prices of products that are to be grown and prospective markets should be considered; (4) settlers should be carefully selected, so that only those who have a real desire to farm and a chance to succeed will go on the land (the greatest mistake in attempting to make land settlements to date has been the failure to select the right kind of settlers); (5) new lands should be developed only as there is a growing demand for more farm products at profitable prices. If these principles are scrupulously followed new land settlements stand a better chance to succeed.

D. Radical Proposals for Land Reform

Nature of Radical Proposals. Because of the great importance of land in agricultural economy, the ownership, tenure, and social control of land have always been problems of vital concern in well-developed agricultural countries, for both the farming class and the general public. Many publicists and statesmen have given their special attention to land problems, and some have proposed solutions that have attracted rather wide attention. We have classified a number of these proposals under the general heading of "radical proposals," because these proposals break rather sharply with the well-established, accustomed practices of land tenure and control. The aim of all these proposals is a wider use of the land for public benefit.

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[9] Gray, *Introduction to Agricultural Economics*, pp. 316-320; Black and Gray, "Land Settlement and Colonization in the Great Lakes States," Dept. Bul. 1295, U. S. D. A.

Mill's Taxation of Land Increments. John Stuart Mill, the great English economist, in his *Political Economy,* written in 1848, proposed a tax on the increase of land values.[10] According to Mill's analysis, land income or rents increase without any exertion or sacrifice on the part of land owners. Landlords who hold the land are progressively enriched as population grows, because of the increasing demand for food products and land. Mill proposed that all land be valued and then revalued at intervals of a few years, and that the increased values be taxed at a rather heavy rate. The tax on the increased values was to be regarded as a rent charge by the state for allowing individuals the right and privileges of land ownership. The tax or rent was to be considered as something reserved by the state in permitting private ownership of land.

The Single Tax. The most widely advocated proposal for land reform has been the single tax.[11] In brief, the single tax proposal is to raise all public revenues from a single source—land values. The advocates of this measure would have the state take for public purposes all the annual rental value of land. In this chapter we are not concerned about the adequacy and practicability of the single tax as a revenue measure, but rather as a measure of land reform affecting the tenure and use of land. The advocates of the single tax contend that it would produce a number of desired results in the way of land reform.

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[10] *Principles of Political Economy,* Bk. V, Ch. II.

[11] Henry George, in his *Progress and Poverty,* has given the classic statement of the single tax theory and the arguments for it. One of the best criticisms of the single tax is to be found in Seligman's, *Essays in Taxation,* Ch. III.

(1) It is argued that the single tax would prevent the concentration of land into large estates, and cause a more equitable distribution of land among the actual tillers of the soil. If all the rental value of land were taken by taxation there would be no incentive for land owners to amass land for rental purposes. Plenty of land would then be available for every person that wished to farm. In reply to this argument the question may be raised whether or not the social good is not best served under our present system which encourages farmers to adjust the size of their holdings to their managerial ability, and which also allows the supervision of many tenant farms by landlords. Large landholdings are not necessarily a social menace. Well-managed estates, on which tenants and laborers are fairly treated in the distribution of the land income, may be socially advantageous.

(2) It is claimed that the single tax would force land into use and reduce the holding of land for speculative purposes, because if a heavy tax had to be paid on the land the owners would put it into use to get returns from it to pay the tax. However, it is very doubtful whether much land is held out of use simply because the owner is holding it as a speculative risk. Owners usually rent their land if it has any rental value. The price of products that can be grown on any piece of land and the cost of producing them on that land, more than anything else, determines whether that particular piece of land will be

idle or used. On the other hand if the tax absorbed all the economic rent each year there would be no incentive in holding land for speculative purposes, because the increments upon which speculation is based would be taken away.

(3) A third argument is that the single tax would bring about a more efficient use of the land, because the taking of all the economic rent would permit only those to farm the land who could secure from it an income sufficiently large to pay the entire economic rent as a tax and also to reward them for capital, labor, and management expended on the land. Under the present system land already tends to fall into the hands of those who can operate it most economically. Moreover, private land ownership is an incentive to thrift, exertion, and good management, which indirectly bring about public welfare through increased production.

(4) A fourth argument for the single tax is that it would relieve farmers of the heavy financial burden of land investments, and release their capital for use in other phases of the farm enterprise, since they would have only the economic rent of the land to pay for its use and would not have to buy the land. This is the same situation that prevails with the tenant farmer today. The single tax would require all landholders to pay the entire economic rent to the state. In practical effect this would simply reduce every holder of the land to a tenant of the state. There would be no more advantage in this for farmers than the tenant now has who pays the landlord the economic rent of the land.

(5) A fifth argument for the single tax is that the public, including those who work the land, would receive the benefits of the increments in land values. The argu-

ment is that the growth of population and the increase in the demand for the things of the soil are responsible for the increase in land values, and therefore society should receive the increase for public benefits. No doubt society is responsible for the large increments in land values, but so is society responsible for the increments in the value of all economic goods. The demand for the products of many corporations has caused the stocks of these corporations to double and treble in value. This is as clearly an unearned increment as is the increment in land values. Furthermore it is extremely difficult to determine how much of the increment in the value of land is due to the progress of society generally and how much is due to improvements made by the owners of the land. The single tax would be extremely difficult to administer, because of this inability to unscramble increments due to social and individual causes.

Land Nationalization. Perhaps the most radical land policy that has been proposed is land nationalization, or government ownership of the land. The advocates of this policy contend that the ownership of land tends to fall into the hands of a few owners, most of whom are absentee owners, and who get a return from the land without doing any work. According to these theorists, the tenants on the land are exploited by the parasitic landlords, who collect a great part of the return from land through rents. Not only are the tenants working on the land exploited, according to the advocates of nationalization, but the general public also, that must live from the resources of the land. Therefore, say the land nationalists, the state should own the land. The state should be the landlord and should either rent the land to tenants or allow them to use the land without paying any rent.

If the land is rented by the state to the tenants, the question arises whether the state would be a better landlord from the standpoint of the tenant than landlords under the system of private ownership. It is doubtful. For any of the great modern states to take over all the land and assume the functions of a landlord would be a tremendous undertaking, which would require strong departments and bureaus with a large number of officials. In Soviet Russia where the nationalization of agricultural lands was undertaken it had to be practically abandoned, for the present at least, because of difficulties of administration. It is very doubtful whether any state governments are prepared to undertake such a huge economic task.

If the tenants on the land should be allowed free use of the land, then the people in other occupations would be dissatisfied with the special privileges granted to them. Workers, manufacturers, mechanics, merchants, and those working in other industries requiring capital would set up a demand for the state to furnish them capital to carry on their industries. From the standpoint of justice to all industries, land nationalization would require the nationalization of all industries. The people of any modern state or democracy are far from being qualified to carry on a government with so many functions as nationalization of industries implies.

Again it has not been demonstrated, except in the ownership and operation of a few industries like public utilities, that public ownership is practicable and economical. Public ownership of industries succeeds only where the units of industry are large and where the supervision and administration of the industries can be reduced to routine. There are too many units in agriculture to expect land nationalization to succeed. Almost every farm is a peculiar unit unto itself.

And finally we cannot be sure that land nationalization would not take away the incentives for thrift and industry, which are stimulated by private ownership of the land. Farmers work industriously and save in order to come into possession of a farm. Feeling that the land is theirs and that they will reap the rewards of their efforts, many farmers take great pains to improve their land to maintain the fertility of the soil. The entire public is benefited by the industry of private ownership of the land, because the land is made more productive and yields better crops.

State Control of Land Holdings. Large land holdings by single individuals or families have always been feared by the great majority of people of the United States, particularly if the holders are absentee owners. This fear has no doubt grown out of the unfortunate experience of tenants in old Europe where the land in so many places has been in the possession of a few, and where tenants have so often been much exploited. New Zealand and some of the Canadian provinces have undertaken to discourage large holdings by levying a graduated tax on land, which becomes higher as the size of holdings increases. As we have already seen, a number of the European countries through their governments have gone so far as to take over large estates and break them up into small holdings for distribution among small holders.

Whether we want to discourage large land holdings in the United States is a very debatable question at the present time. We are not afflicted with an extensive absentee land ownership system. The trend in our agriculture seems to be towards larger units of operation. Where landlords live close to their farms they may perform a valuable function in supervision of their farms. We know that management is one of the most essential functions in operating a farm. As shown in the preceding chapter, the vast majority of landlords in the United States reside in the county in which their lands are located and they are either farming or have retired from farming. Rather than limit the size of holdings it would perhaps be better to enact legislation regulating landlord-tenant relations and to provide state credit facilities with which young men aspiring to ownership may purchase farms on easy terms.

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CHAPTER VIII

SOCIAL CAPITAL IN FARMING

A. NATURE, TYPES, AND VOLUME OF SOCIAL CAPITAL

Nature of Social Capital. To those forms of farm capital that are largely the result of man's artificial construction and development,—buildings, live stock, machinery, vehicles, harvested crops, seed, investment securities, insurance policies, and ready cash—the general name of *social capital* is given. These forms of capital are called *social* capital because they are products of men's group life and their attempts to create instruments that aid them in the production and exchange of wealth. The amount of social capital used in agriculture has increased with the centuries. An outstanding characteristic of agriculture in the United States, particularly in the North and West, has been the extensive use of social capital. The high productivity per man in our agriculture is due chiefly to the employment of large amounts of social capital.

Distribution of Farm Property by Classes. Tables 10 and 11 show the average value per farm, the percentage distribution, and the average value per acre, of the four chief classes of farm property—land, buildings, live stock, and implements and machinery, according to the census of 1920. These tables show the relative importance of the three chief classes of social capital in the farm enterprise. Buildings represent the largest investment in social capital, ranging from $711 per farm in the East South Central

TABLE 10. AVERAGE VALUE PER FARM, AND PERCENTAGE DISTRIBUTION, OF DIFFERENT CLASSES OF FARM PROPERTY, CENSUS 1920

	All Farm Property	*Land*	*Buildings*	*Live Stock*	*Implements and Machinery*
			Average Value Per Farm		
United States	$12,084	$8,503	$1,781	$1,243	$557
New England	7,492	3,118	2,742	1,042	590
Middle Atlantic	9,290	3,908	3,153	1,384	845
E. N. Central	15,898	11,105	2,666	1,403	725
W. N. Central	25,517	19,454	2,853	2,151	1,060
S. Atlantic	5,292	3,452	1,036	558	245
E. S. Central	4,203	2,773	711	551	167
W. S. Central	7,652	5,429	887	1,024	312
Mountain	16,727	11,477	1,481	2,987	781
Pacific	22,664	17,795	2,146	1,731	992
			Percentage Distribution		
United States	100.0	70.4	14.7	10.3	4.6
New England	100.0	41.6	36.6	13.9	7.9
Middle Atlantic	100.0	42.1	33.9	14.9	9.1
E. N. Central	100.0	69.9	16.8	8.8	4.6
W. N. Central	100.0	76.2	11.2	8.4	4.2
S. Atlantic	100.0	65.2	19.6	10.6	4.6
E. S. Central	100.0	66.0	16.9	13.1	4.0
W. S. Central	100.0	71.0	11.6	13.4	4.1
Mountain	100.0	68.6	8.9	17.9	4.7
Pacific	100.0	78.5	9.5	7.6	4.4

TABLE 11. AVERAGE VALUE PER ACRE OF FARM PROPERTY, CENSUS 1920

	All Farm Property	*Land*	*Buildings*	*Live Stock*	*Implements and Machinery*
United States	$87.52	$57.36	$12.02	$8.38	$3.76
New England	69.04	28.73	25.27	9.60	5.44
Middle Atlantic	97.35	40.96	33.04	14.50	8.85
E. N. Central	146.48	102.31	24.56	12.92	6.68
W. N. Central	108.93	83.04	12.18	9.18	4.53
S. Atlantic	62.72	40.92	12.28	6.62	2.90
E. S. Central	56.02	36.96	9.47	7.35	2.23
W. S. Central	43.94	31.18	5.09	5.88	1.79
Mountain	34.80	23.88	3.08	6.21	1.63
Pacific	94.51	74.21	8.95	7.22	4.14

states to $3,153 in the Middle Atlantic states, with an average of $1,781 for the entire United States. The value of live stock per farm ranges from $551 per farm in the East South Central states to $2,987 in the Mountain states, with an average of $1,243 for the United States.

The value of implements and machinery per farm ranges from $167 per farm in the East South Central states to $1,060 per farm in the West North Central states, with an average of $557 for the United States. The percentage distribution of different classes of farm property for the United States is as follows:

Land	70.4
Buildings	14.7
Live Stock	10.3
Implements and Machinery	4.6

The percentage of all property in buildings varies from 8.9 in the Mountain states to 36.6 in the New England states, with an average of 14.7 for the United States. The percentage of all property in live stock varies from 7.6 in the Pacific states to 17.9 in the Mountain states, with an average of 10.3 for the United States. The percentage of all property in implements and machinery varies from 4.0 in the East South Central states to 9.1 in the Middle Atlantic states, with an average of 4.6 for the United States. The average value per acre of different classes of farm property varies considerably among the different geographical divisions. For buildings the variation is from $3.08 in the Mountain states to $33.08 in the Middle Atlantic states; for live stock, from $5.88 in the West South Central states to $14.50 in the Middle Atlantic states; for implements and machinery, from $1.63 in the Mountain states to $8.85 in the Middle Atlantic states.

Economy of Farm Buildings. Farm buildings include dwelling houses, houses for tenants and laborers, barns, granaries, dairy buildings, poultry and hog shelters, implement sheds, and garages. The number and types of buildings are determined by climate, types of farming, the thrift and industry, and the economic and social status of farmers. In the Southern states where the climate is mild and a small amount of live stock is kept the investment in barns is very low. In the North where the winters are long and cold and a large amount of live stock is kept the investment in barns is necessarily large. Farm buildings must be considered as having an economic value in the farm enterprise. A good dwelling house, well equipped, helps facilitate the necessary work about the farm and affords rest and comfort for the farm workers. Good houses for tenants and farm laborers help keep them contented with their farm work and their living conditions. Barns are necessary for the protection and upkeep of live stock, and lighten the work of feeding, milking, and cleaning, where properly constructed. Buildings and sheds for storing crops and protecting machinery have an economic value, overlooked by many farmers. While there is economy in good farm buildings sufficient to house the farm family and workers and to protect live stock, machinery, implements, and crops, there is a great economic loss on some farms from over-building.

Live Stock. Second in importance in social capital investment on farms in the United States is live stock, constituting 10.4 per cent of the entire farm investment in 1920. From time immemorial the horse, the cow, the sheep, the hog, and the hen have been most important parts of farm economy. In some sections the entire farm enterprise is organized around one or two types of live stock, as in the dairy and grazing sections. In 1920 the entire value of live stock in the United States was distributed among different types of live stock as follows: cattle, 45.6 per cent; horses and mules, 31.9 per cent; swine, 12.3 per cent; sheep, 4.9 per cent; and poultry, 4.7 per cent. Live stock is economically productive as sources of farm power, and soil fertility. Till the coming of the automobile, the truck, and the tractor, the horse, the mule, and the ox, were the chief means of farm transportation and power. In 1920 live stock products were the source of nearly 10 per cent of the farm income in the United States. Live stock helps maintain the fertility of the soil. In old countries where live stock farming has been practiced soil fertility has been maintained through hundreds of years of cultivation. The little country of Denmark, and parts of England, France, Germany, Belgium, and Holland, have demonstrated the economic value of live stock farming in maintaining soil fertility. In our Southern states where much of the soil is thin and has been over cropped for many years, there is an outstanding need for more live stock farming. Except in a few cases, it would not be economical for Southern farmers to turn exclusively or primarily to live stock farming. But the large amount of cheap land and the long growing season in the South make possible the raising of live stock cheaply. More farm animals per farm would do much to restore soil fertility.

An important phase of live stock farming in late years has been the selection and breeding of different types of farm animals. The economic productivity of horses, cows, hogs, sheep, and poultry has been tremendously increased.

Farm Machinery. Extensive use of farm machinery has been an outstanding characteristic of agriculture in the North and West since 1860. Before this date farm machinery consisted of a few rude horse-drawn vehicles, small wooden plows and harrows, mattocks, hand rakes, scythe, cradle, flail, hoes, fork and shovel. In the last fifty years these tools and implements have been supplemented or replaced by chilled-steel plows, disc plows, and harrows, large cultivators, reapers, threshers, combines, mowers, rakes, drills, corn planters, corn harvesters, corn huskers, corn shellers, seeders of many kinds, hay loaders, potato diggers, milking machines, sprayers, ditchers, gas engines, and many other special implements and machines. Indeed there has been a revolution in agricultural machinery comparable with the great industrial revolution in other industries. Farmers in the northern and western states of the United States have led the world in the use of labor-saving machinery. The output per farm worker has been greatly increased and farmers have enjoyed a relatively high standard of living because of this extensive use of machinery.

However, there is a wide variation among the different geographical divisions in the size of the investment in implements and machinery per farm. The range is from $1,060 per farm in the West North Central division, to $167 in the East South Central division, with an average of $557 for the United States as a whole (Table 10). The three southern divisions have low investments per farm, while the West North Central, the Pacific, and the Middle Atlantic divisions have high investments. The causes of the low investment in implements and machinery in the South are the abundance of farm labor, cotton and tobacco farming, which require hand labor, extensive farm tenancy and the cropper system, illiteracy and low economic status of a large proportion of the farming population. The causes of the high investment per farm in the North and West are grain and hay farming, for which farm machinery is adapted, scarcity of farm labor, and the high economic status of most farmers.

The Gas Engine. In the last two decades the automobile, the truck, the tractor and the stationary engine have come to have great economic significance for the farmer. In the North and West practically all farmers have automobiles. In the South the majority of farm owners and many tenants own automobiles. The automobile is used by the farmer in making trips to the trade center, in hauling light loads, and is a great time-saver for the farmer. For many farmers the truck has supplanted the horse for hauling crops to the market, and feed and other products to the farm. Much live stock is now hauled to market in trucks. Tractors are now used on a large number of farms. The stationary gas engine is used on many farms to lift water and to furnish power for the operation of stationary machines.

B. Economic and Social Effects of the Use of Social Capital

Increased Production. The biggest and most important effect of the use of larger amounts of social capital in agriculture has been increased production. A study made by Quaintance and published by the American Economic Association in 1904 showed the time required by one hand to produce and harvest given units of different crops to be reduced by horse power and machinery as follows: barley, from 63 hours and 35 minutes to 2 hours and 42 minutes; corn, from 38 hours and 45 minutes to 15 hours and 7 minutes; cotton, from 167 hours and 48 minutes to 78 hours and 42 minutes; hay, from 21 hours and

5 minutes to 3 hours and 56 minutes; oats, from 66 hours and 15 minutes to 7 hours and 5 minutes; potatoes, from 108 hours and 55 minutes to 38 hours; rice, from 62 hours and 5 minutes to 17 hours and 2 minutes; rye, from 62 hours and 58 minutes to 25 hours and 10 minutes; wheat, from 61 hours and 5 minutes to 3 hours and 19 minutes. The time required for the completion of many other farming operations has been similarly reduced by the use of machinery and horse and engine power. This great reduction in the time required per farm worker to produce different crops has brought a tremendous increase in production per farm worker. A recent bulletin of the United States Department of Agriculture (Dept. Bul. 1348) gives the following comparisons between the United States as a whole and several different states and five leading foreign countries in the number of horses per farm worker and the index volume of production per farm worker:

Country	*Number Horses Per Worker*	*Index of Volume of Production Per Worker*
Italy	0.19	45
France	0.37	90
Belgium	0.38	117
Germany	0.55	119
United Kingdom	0.88	126
United States	2.05	292
Alabama	0.81	112
Indiana	2.46	365
Nebraska	4.71	910

These figures show the economic importance of horse power in agricultural production. Through the use of horse power and machinery California rice can be raised with $5-a-day labor and sold cheaper in Chinese markets than rice grown by Chinese hand laborers paid 15 cents a day for their labor. The economic productivity of Nebraska farm workers, who use 4.71 horses per worker, is more than eight times the economic productivity of Alabama farm workers, who use only 0.81 of a horse per farm worker.

Release of Men for Other Work. With the increased production per farm worker through the use of power and machinery, many people have been released from farm work to engage in other industries. There has been a constant reduction in the number of farm workers per 1,000 acres of farm lands in the United States since 1850. In practically all sections where farm machinery can be used the average size of farms has increased during the last three or four decades. Other industries have grown rapidly because they have been able to tap the surplus supply of farm workers. Perhaps the biggest cause of the drift of the farming population to the cities has been the improvement of farm machinery and the greater use of horse and engine power on farms. The rapid increase of the urban population and the increased manufacture of finished products has brought into use a wider range of consumable products. The comforts, conveniences, and luxuries of life have been greatly increased. The standard of living of all classes of people has become higher. The extensive use of machinery and horse and engine power on farms is a phase of the great industrial revolution, in which scientific technology and natural power have been used to increase vastly the economic productivity of human labor and to raise the standard of life.

Better and Fuller Use of Land. The extensive use of horse power and machinery has made possible a better and fuller use of the land supply of the United States. Indeed it was only by the use of machinery and horse power that the agriculture of the United States was extended so rapidly across the continent. By increasing the amount of land that one worker could cultivate, horse power and machinery released many men to go on to new areas and establish farms. They have made possible better breaking and cultivation of the land. The hoe farmer or one-horse farmer usually cannot prepare a good seed bed and cultivate crops effectively. In many sections today the tractor is being used, even on relatively small farms, for deep plowing and getting a good humus bed. Only through the extensive use of horse or engine power and large machinery has it been possible to cultivate economically the semi-arid sections of the West, where large areas must be covered to get results.

Increased Farm Incomes. All the farm management surveys made in the United States have shown that the size of the farm income increases as the size of the outlay of social capital increases. Investments in horse power and machinery yield large returns. Professor Spillman has shown the following comparisons in the returns on working capital (horses and machinery) and the returns on real estate (land and buildings) in a number of different localities in the United States:[1]

Location	*Year*	*Return on Working Capital*	*Return on Real Estate*
Sumter County, Ga.	1913	20.2% (colored)	10.5% (colored)
Sumter County, Ga.	1913	24.9 (white)	7.2 (white)
Clinton County, Ind.	1910	14.2	2.9
Clinton County, Ind.	1914	20.5	3.0
Clinton County, Ind.	1919	27.4	5.6
Chester County, Pa.	1911	19.0	8.8
Guthrie and Green Counties, Iowa	1910	19.7	3.2
Cass and Minard Counties Iowa	1910	33.5	3.6
Lenawee County, Mich.	1911	16.1	5.6
Tama District, Iowa	1918	24.6	4.5

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[1] *Farm Management,* p. 4.

These figures show that the capital invested in horses and machinery yielded a return from two to ten times as great as the capital invested in real estate. The greatest weakness of the southern farming system today is the relatively small amount of capital invested in horses, tractors, and machinery. Many southern farmers are still trying to dig most of their wealth out of the ground with the primitive hoe. They are using one-horse plows to break the land, and are plowing up one side of a row of cotton or corn and down the other, wasting a large amount of human labor. The average size of farm incomes in the South is universally low as compared with the size of incomes made by northern and western farmers.

High Standard of Living. The increased economic productivity per farm worker through the use of horse and engine power and machinery has brought the farmers of the United States, particularly in the North and West, a relatively high standard of living. Farmers and their families have been able to live in good homes, have a variety of good food, go well dressed, enjoy a fair amount of comforts and conveniences, educate their children, and have the use of an automobile for pleasure. Their standard of living is high as compared with the standard of living of farmers in the old European countries and in the Orient. This relatively high standard of living has placed the farmer of the United States in the middle class, whereas in most countries the farmer belongs to a peasant class or to one of the lower classes. Only in our southern states is there a class of our farming population that can be regarded as belonging to a peasant class, and in these states less than half of the farm families can be so regarded.

Elevated Economic Status of Agriculture. An important socio-economic effect of the use of power and machinery has been the raising of the status of agriculture. Since agriculture was one of man's first occupations it has often been regarded as a primitive and unskilled industry, and more or less degrading to those engaged in it. Agriculture in most parts of the world has been a hoe agriculture. Hoe agriculture requires little skill, little planning, little intelligence, but a great amount of hard, muscular work. Those who have followed it have usually worked hard and remained poor. They have occupied a low economic status. Machine agriculture gives opportunity for planning, it demands skill and business ability, it provides time for leisure, and makes possible income sufficient to give the farmer and his family a relatively high standard of living. The extensive use of capital puts the farmer in competition with the other users of capital, makes him alert in economic matters, and raises his occupation to a level of dignity and respect.

Paved Way for Capitalistic Farming. Agriculture has always resisted large scale operation. It has never been thought of as adapted to large scale enterprise. The limiting factor has been the use of social capital on a scale that could be profitably managed under the entrepreneur system. In the southern states the plantation system has persisted as an economically profitable enterprise, but only because of the presence of a great body of ignorant and unskilled laborers. But today, with the coming of tractors and other large machines, it is possible and highly probable that farming on a capitalistic basis will develop in many communities. Bigger and more efficient farm machines make possible the cultivation of large areas. The amount of land to fit the machines becomes larger and requires a much greater amount of capital.

Buying, utilizing, and managing such machinery is a business enterprise requiring great skill in management. Superintendents and experts are needed. Farm work will become more effective under such management. This may lead to a great deal of capitalistic farming.

Increased Landless Agricultural Class. The increasing requirements of capital, power, and machinery for farming have had the effect of making it more difficult for some farmers to own both the land they cultivate and the social capital they use. In many sections the social capital required for successful and profitable farming is $2,000 to $10,000, while the capital in land amounts to $25,000 or $35,000. The per cent of farmers remaining in the tenant class is increasing each decade, showing that it is becoming more difficult for a man to own both the land and social capital which he operates. Capitalistic farming also demands a large number of wage earners or laborers. Just as the extensive use of social capital in the industrial world created a class of capitalist owners and a corresponding class of workers, who did not own the instruments of production, so will the extensive use of machinery and power on a large scale bring a similar result in agriculture. In England, Germany and Central Europe, where a class of farm laborers has developed, the status of the agricultural laborer has been very low. But this is not necessary. Under capitalistic farming good wages can be paid to agricultural workers.

C. ACCUMULATION AND CONSERVATION OF SOCIAL CAPITAL

Social Capital Result of Saving. The amount of social capital required for successful farming has constantly increased. As new inventions are made and new agricultural processes are discovered, still larger sums of social capital will be needed in agriculture. According to the United States Census of 1925 the social capital in agriculture exceeded $18,000,000,000. The means of bringing social capital into existence is by saving—consuming less than is produced. The individual gets his social capital either by saving out of his own production, or by inheriting what some one has saved, or by borrowing what some one has saved. Unless a young man, who begins as a farm laborer, saves a part of his yearly income he will not be able to become a farm tenant, owning his own farming equipment. The tenant farmer cannot increase his social capital or become an owner of land unless he saves a part of his yearly income. On the whole the farmers of the United States have been relatively thrifty. Between 1909 and 1918 "6,400,000 farmers with an average income below $850 each, made average savings of over $100 each, a total of slightly over $670,000,000, or about one-eighth of the total national savings."[2] The accumulation of social capital by an individual is a result of industry, foresight, and willingness to deny one's self the immediate enjoyment of one's income or wealth. Perhaps it has become much more difficult for farmers to save today than formerly, because of the large number of finished products offered to farmers in all the markets and urged upon them by advertising and high-powered salesmanship. Too much thrift is not socially good for the farmer because he denies himself and his family the essential comforts and conveniences of life. On the other hand too much spending prevents the farmer from accumulating that amount of social capital that is necessary for efficient farming. The problem for the farmer and the farming population is to strike the happy balance between saving and spending.

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[2] *Jr. Amer. Sta. Assn.,* Vol. XVIII, p. 468.

Maintaining Social Capital. Quite as important as accumulating social capital is maintaining it at a given amount. In modern farming, in which the farmer often borrows money to buy equipment, or to raise crops and live stock, which are sold under conditions of rising and falling prices, it is very easy for a farmer to lose his social capital. The dangers of loss are particularly great during a period of financial depression. Social capital can be maintained by good management, by wise spending and investing, and by sane living within one's income. Careful planning of the farm enterprise is necessary to prevent financial loss in producing crops and live stock for the market. Investments in tools, implements, vehicles, and live stock need to be carefully weighed. A problem that must be closely watched by the modern farmer is borrowing. Getting credit is relatively easy for the farmer today. But debts have to be paid just as surely as they are made. Borrowing should be only for productive purposes.

Reserves and Surplus. Corporate businesses, banks, and other financial institutions make much of surpluses and reserves. Those business institutions that can maintain year after year large surpluses and reserves are regarded as strong, safe, and wisely managed. Businesses try to build up surpluses and maintain reserves in order: (1) to strengthen credit; (2) to obtain further credit on favorable terms; (3) to enable the business to overcome unexpected commercial and financial disturbances; (4) to maintain the same level of operating efficiency through periods of business fluctuations and depressions; (5) to be prepared for making large and unusual new outlays; (6) and to be able to pay equal dividends during fat and lean years. More and more the operation of a farm is influenced by all the changing business and economic forces indicated above, against which the best businesses are trying to protect themselves by laying up reserves and surpluses. The disturbing factors increase the risk of farming. Owing to pests and uncertain weather conditions, farming is more endangered by lean years than many other businesses. Well may farmers begin to study the practice of other businesses in maintaining reserves and surpluses. Reserves and invested funds that could be called in on short notice would do much to relieve farmers during years of crop failures and low prices and during longer periods of financial depression. Such common reserves held by those engaged in agriculture would help to make agriculture safe and secure. They would relieve farmers of much financial worry. They would help farmers solve the problem of emergency outlays. They would help farmers maintain evenly their standard of living.

Depreciation Fund. In the financial organization of the farm business a fund should be laid aside for taking care of the depreciation of farm equipment. Machinery and vehicles must be repaired and replaced. Buildings must be repaired. Live stock must be replaced. The experts have estimated a general depreciation of 7 to 10 per cent a year on farm machinery.[3] This means that farm machinery must be replaced every 10 to 15 years. On some machines the depreciation is much greater, on others less. The rate of depreciation depends to a large extent upon the care given the machinery during its use and during the period when it is not in use. Live stock on farms depreciates from 5 to 10 per cent a year. Farmers know in a general way about how long a machine, or a vehicle, or an animal will last. Farm management students have figured out fairly accurately the endurance periods and the rates of depreciation for the different types of farm equipment, so that it is possible for the farmer to anticipate depreciation costs and to make the savings necessary to restock worn out equipment. The successful farmer must allow for these depreciation costs in his annual financial analysis and budgeting.

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[3] Nourse, *Agricultural Economics*, pp. 300-301.

Capital Loss from Neglect of Machinery. The farmers of the United States suffer a very large annual capital loss due to the neglect of farm machinery. On many farms no attempt is made to store farm machinery in sheds when it is not in use and to protect it against the weather. It has been estimated that the proper housing of farm machinery makes it last approximately twice as long. In other words, the depreciation on machinery is only 5 per cent per annum when it is properly housed, whereas it is 10 per cent when left exposed to the weather. It is a common observation in practically every rural community that some farmers get twice as much use and service as other farmers out of the same kind of machines. The difference is largely in the care taken of the machinery. The difference in the rates of depreciation of 5 and 10 per cent on machinery over a period of thirty or forty years of farming amounts to a very considerable sum and helps determine whether a farmer can acquire a surplus with which to retire as he reaches an advanced age.

The Capital Fund for Agriculture. On the whole the farming population has been thrifty. Farm families have lived a relatively simple life, with little extravagance. In the old days this common thrift among many farmers was the source of loans to young farmers just beginning their farming operations. Parents, kinsmen, and neighbors who had surplus funds were ready to lend them at a reasonable rate of interest to the deserving young men who were industrious and ambitious to become owners of farm equipment and land. At the present time most farmers have bank connections. They keep their current operating funds in the bank. They borrow from the banks when they need money. The bank deposits of farmers provide accumulations of funds that can be loaned to farmers. As the amount of capital required in farming increases it is desirable that the surplus funds of the farmers of a community find their way back into the agriculture of the community in the way of loans to the young men who are in need of more capital. Cooperation between bankers and farmers with surplus funds to lend will make available loans for the healthy promotion of agriculture in the community.

Safe Investment of Surplus Funds. Many middle-aged farmers find themselves in possession of surplus funds that they wish to invest. Modern investments can take many different forms. In the past farmers have invested most of their surplus funds in land. On the whole land has proved a good form of investment, chiefly due to the rising value of land, and not so much because of a high return on land. As was shown in Chapter V, land investments may not prove to be nearly as profitable in the future as in the past. Land values have been inflated. We may not expect such large unearned increments in the future. Lately many investments in farm lands have turned out to be "gold bricks" for investors. Land is not shaped up in the size of farms suitable for given units of machinery, and when traded as investments, exceeds the amount that the farmer with small savings can invest. Farmers more and more will invest in other things than land. There are many solicitors canvassing farmers to sell them different kinds of stocks and trying to get them to invest savings in other forms of investments. Real estate men are keen to get farmers to invest in city lots. Wise investments can be made only when the investor knows something of the future possibilities of return on the investments. Too often farmers know little about investments. Perhaps the safest course for a farmer with surplus funds to invest is to get the advice of his banker on proposed investment. Bankers are usually fairly well posted on investments and a good banker who is intimately acquainted with the farmer as a patron at the bank will ordinarily give advice as to investments.

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CHAPTER IX

FARM CREDIT

A. Nature, Needs, Types, and Development of Farm Credit

Nature of Credit. It is often said that we are living in a credit age. Many people borrow from others and return the sum borrowed at a later date, together with an additional sum, interest, for the use of what was borrowed. A farmer sees that he can use another team to advantage on his farm, but does not have the money with which to purchase the team. He goes to the bank and borrows $300 with which to buy the team. For the $300 the banker takes from the farmer a promise to repay the $300 at a later date, with a certain rate of interest, which the farmer pays for the use of the $300. The banker becomes a creditor and the farmer a debtor. To give credit is to accept from another a promise to pay at a future date a certain sum for money or goods received in the present. To receive credit is to obtain from another purchasing power in the form of money or goods to be repaid at some time in the future. Credit is merely the means by which wealth, capital, money, or purchasing power is transferred from one person or institution to another person or institution. Credit in our present economy is measured in terms of money. It may be received in the form of goods, money, check, or credit fund at a bank. Credit is fundamentally a deferred payment with time as the fundamental element.

Credit Transfers Wealth. Credit does not increase the amount of wealth in society at the time of the credit transaction. Extending credit is transferring goods, money, or purchasing power from one person to another. Credit facilitates the transfer of wealth from those persons in society who have wealth and do not care to use it in capital investments, to those persons who lack wealth to carry on enterprise to the extent desired. Many persons have small amounts of surplus wealth that they cannot use to advantage. Many small sums combined, however, make it possible for other persons to use the wealth to advantage. One of the primary functions of banks and other credit institutions is to assemble the small surplus funds of a large number of individuals and lend them in such amounts as are demanded by the users of credit. While the making and receiving of loans does not increase the amount of capital at the time of the credit transaction, credit may cause an increase in the production of wealth by placing surplus funds in the hands of persons who will use them most effectively. On the other hand credit may result in an actual decrease in the wealth of society if the accumulated funds are wasted in unprofitable enterprise.

The Bases of Credit. One who makes a loan to another is most concerned that the loan will be repaid at the time stipulated, with interest. The creditor must have confidence in the good faith and the ability of the debtor to meet his financial obligations promptly. Many factors measure the credit rating of a person, such as past record for honest dealing, industry and integrity, age, success in business, reputation for business sense, consumption habits, style of living, accumulated wealth, and amount of insurance carried. Other factors of concern to the creditor are ratio of quick assets to current liabilities, proportion of the amount invested actually owned by the debtor, character of the capital investment, rate of turnover of goods produced, and trends in the business. All these factors unite in establishing a person's credit standing. Farm credit is like all other credit in these important respects. All the above named factors have their influence in determining how much credit each farmer can get and the price he must pay for it.

Types of Farm Credit Needed. The farmers of the United States need several different types of credit. Many farmers are buying land and erecting buildings, which entail heavy outlays, and therefore need large sums of long-time credit. Heavy investments are made each year in new machinery, fences, and live stock. For these capital outlays, farmers need credit running for several years. Short-time credit of three months to a year is needed for the purchase of hardware, fertilizer, seed, food and feed supplies; for the payment of labor, taxes, insurance, and repairs, and for holding farm crops for a favorable market. Farmers' credit needs may be conveniently classified under three heads: (1) long-time credit, (2) intermediate credit, and (3) short-time credit. These three different types of farm credit will be considered at length in the following sections of this chapter.

Volume of Farm Credit. The amount of credit used annually by the farmers of the United States can only be roughly estimated. In 1922 it was estimated by the Division of Farm Finance of the United States Department of Agriculture, that the amount of mortgage indebtedness on farms in the United States was something over $8,556,000,000.[1] In 1921 it was estimated that the banks of the United States had loaned out to farmers on personal and collateral security about $3,869,000,000.[2] Little is known about the exact amount of store credit to farmers. Estimates of total store credit to farmers in the United States vary from $1,000,000,000 to $3,000,000,000.[3] We can safely estimate the total volume of farm credit in the United States to be above $12,000,000,000 a year.

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[1] *Dept. Bul.* 1047, U. S. D. A.

Sources of Farm Credit. The sources of farm credit are many. Individuals, banks, trust companies, investment agencies, investment agents, insurance companies, manufacturing corporations, merchants, and special agricultural credit institutions furnish credit to farmers. All these individuals, agencies, and institutions, with their funds and their customs and practices in making loans, constitute the financial organization and structure of our modern economic society. Other industries as well as agriculture are dependent on these various financial sources for credit. The chief sources of credit for farmers are state and national banks, insurance companies, the Federal Farm Loan Banks, the Joint Stock Land Banks, special agricultural credit corporations, individuals and stores.

Factors Influencing Interest Rates. Interest is the price paid for the use of credit. Gross interest includes three elements: (1) pure interest, which is the price paid for saving and the accumulation of capital; (2) a risk payment, which is the price charged for risks attending the loan; and (3) expenses of handling the loan, which is the price charged by individuals, agents, and financial institutions for their services in assembling surplus funds and lending them to borrowers. In the business world it is the gross interest rate that is quoted on the money market.

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[2] *Dept. Bul.* 1048, U. S. D. A.

[3] Morman, *Farm Credits in the United States and Canada,* 1924, p. 295.

The price that must be paid for saving and the accumulation of capital depends primarily upon the demand for, and the supply of, savings, or surplus capital. The demand for loanable capital, or credit, is determined by the prospect of profits that can be obtained from the use of borrowed capital, by the number and types of technical inventions and discoveries that can be exploited for profits, by available natural resources that can be utilized for profit, and by the demand for the goods that can be placed on the market. The supply of capital savings, or credit, depends on the productive output of industry, the rate of profits, the stability of government and industry, the efficiency of the banking system, and habits of thrift. All these factors influence the interest rate.

The risk factor in loans varies greatly. There is practically no risk involved in the loans made to a strong, stable government, and the interest rate on public loans is usually very low. On the other hand the risk assumed by the average pawnbroker, who makes loans, is very great, and is reflected in the high rate of interest charged. The greater the risk involved in making the loan the higher will be the rate of interest charged. One of the reasons why the supply merchants in the South charge such high rates of interest on the goods sold on time is the great risk involved in selling goods to tenants and croppers, who can furnish little or no property security, who themselves are taking risks in the crops they grow, and many of whom are lacking in industry, stability, and integrity. High interest rates are charged to cover losses suffered from uncollected debts.

The price charged for handling loans depends on the numbers of persons, agents, and financial institutions engaged in the money-lending business, and on the amount of supervision necessary in handling the loan. This item is usually a very minor part of the gross interest rate.

Special Factors Influencing Cost of Farm Credit. A number of special factors have influenced the cost of credit to farmers. Farmers have often complained that they have been compelled to pay high interest rates. (1) One important factor causing high interest rates in some regions is climatic conditions. In certain parts of the West where droughts are frequent, bankers and money lenders take big risks in loaning money to farmers. Naturally in these regions interest rates are high. Since agriculture is so highly dependent on climatic conditions everywhere, it is not surprising that interest rates on farm credit tend to be high. (2) An important factor that has influenced farm credit interest rates has been the distance from financial centers. Interest rates have always been cheaper in the East, where there has been a large amount of accumulated capital, than in the West where capital has been scarce. (3) There has always been a tendency towards relative overproduction in American agriculture, which has made farming a low paying industry, and therefore not a good business risk in the eyes of money lenders. Entrance into agriculture in the United States has always been easy. Little capital was required. (4) Farmers as a class have not been good business managers, and therefore have received low and uncertain incomes, which have reacted unfavorably upon their credit status. (5) In the Southern states the very high interest rates charged at stores, where goods are sold on time, are caused by the low economic status, the instability, the shiftlessness, the improvidence, the indolence, and the dishonesty of many of the tenants and croppers who buy such a large part of their supplies on time. (6) The banking system till lately was developed primarily to serve the needs of those demanding short-time commercial credit. The system was not designed to take care of the long-time and intermediate credit needs of farmers.

Development of Farm Credit Facilities. As already stated in a preceding paragraph farmers have received their credit from a number of sources. In the early history of many agricultural communities in the East and South, a large amount of credit was furnished by individuals in the community, usually farmers or country store merchants, who had been thrifty and successful, and had accumulated surplus funds to lend. The country stores and small town stores have always carried credit accounts with farmers. Implement manufacturers and dealers have extended credit in large amounts to farmers. Banks, trust companies, insurance companies, and farm mortgage banks have made loans to farmers. Special cattle loan companies have developed in the West. Lately special provisions for agricultural credit have been made by the Federal Reserve banking system, the Federal Farm Loan Banks, the Federal Intermediate Credit system, agricultural credit corporations, and credit unions in a few states, all of which will be described later in this chapter. During the last two decades there has been a rapid development of better credit facilities for farmers.

B. Long-time farm mortgage credit[4]

Volume and Sources of Farm Mortgage Credit. The total volume of farm mortgage indebtedness in the

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[4] Data for the following paragraphs on the volume, sources, increase, causes of growth, purposes, and cost of long-term credit are taken from the following bulletins: Dept. 1047, Yearbook Separate 915, U. S. D. A.; "Farm Credit in North Carolina"; Tex. Sta. 330.

United States in 1920 was estimated by the Division of Farm Finance of the United States Department of Agriculture to be $8,556,800,000. About 40 per cent of the total amount of farm mortgages was estimated to be held by five different classes of financial institutions as follows: state and national banks, 17 per cent; insurance companies, 14 per cent; Federal and joint-stock land banks, 5 per cent; mortgage banks, 3 per cent; state financial agencies, 1 per cent. No definite figures are available as to who holds the other 60 per cent of farm mortgage debts. However, it is well known that former farm owners and private investors in farmlands constitute two of the most important classes of holders of farm mortgages. In three selected areas in North Carolina the percentage distribution of mortgage loans by sources was found to be as follows: individuals, 55.9 per cent; commercial banks, 19.6 per cent; Federal Land Banks, 15.3 per cent; insurance companies, 6.3 per cent; other sources, 2.9 per cent.

Increase in the Volume of Long-term Credit.[5] Long-term credit is used more extensively by farmers than any other form of credit. From 1890 to 1920 the per cent of owner-operated farms mortgaged increased from 27.8 to 37.2. The increase in the volume of mortgage indebtedness on owner farms was even greater. While the increase in the number of owner farms mortgaged from 1890 to 1920 was 18.5 per cent, the increase in the amount of mortgage indebtedness was 131.9 per cent, an increase from $1,726,000,000 to $4,003,000,000. From 1910 to 1920 the ratio of mortgaged indebtedness to total value of owner-operated farms increased from 27.3 per cent to 29.1 per cent. The Bureau of Agricultural

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[5] Dept. Bul. 968, U. S. D. A.

Economics has estimated that the value of all plow lands in the United States decreased 30 per cent from 1920 to 1925. Mortgage indebtedness seems not to have decreased. It was estimated that in the summer of 1924 the ratio of mortgage indebtedness to owner-operated farms had risen to 40 per cent. The average amount of indebtedness per owner mortgaged farm increased from $1,715 in 1910 to $3,356 in 1920.

Causes of Growth of Long-term Credit. Farmers get long-term credit for three major purposes: (1) to buy land or to pay off mortgages on land; (2) to purchase farm equipment; and (3) to make improvements in buildings, fences, etc. The exhaustion of free land in the United States has no doubt caused an increase in the number of mortgaged farms in many communities. Many young men, instead of becoming farm owners by going West and homesteading, now reach farm ownership through the stages of farm tenant and mortgaged owner, finally arriving at complete ownership when the debt on the farm is paid off. Increased land values have had a great influence in increasing the amount of mortgage indebtedness per farm. In some regions the average value of farms in 1920 had risen to $50,000. Farmers now use a much larger amount of equipment capital than formerly. From 1880 to 1920 the farmers of most sections of the United States contributed to the intensification of agriculture by the use of a greater amount of capital in improved agricultural machinery, better and larger buildings, more and better live stock, new fences, better prepared soil, and more carefully cultivated crops. Farmers had to have more capital and more long-term credit to make these improvements. Evidence of this greater use of capital is seen in the fact, that while the number of agricultural workers increased 55 per cent from 1880 to 1920, the number of acres cultivated increased 77 per cent, and the total physical output of farm products increased 115 per cent. While the number of farm workers decreased 4.3 per cent from 1910 to 1920, the number of crop acres per agricultural worker increased from 24.6 to 32.6, or 33 per cent, and the quantity of crops produced increased 13 per cent. The United States Department of Agriculture has estimated that the quantitative increase in the use of farm machinery per acre during the first twenty years of the twentieth century was 46.7 per cent.

Purposes of Long-term Credit. It is well known that the greater part of long-term mortgage credit is incurred to buy land or to pay off indebtedness on land. According to the Census of 1890, the percentage of farm mortgage indebtedness contracted for different leading purposes was as follows: to buy land, 64.3 per cent; to make real estate improvements, 6.4 per cent; to secure operating capital, 1.9 per cent; to purchase machinery and animals, 1.1 per cent; to provide family living expenses, 2.8 per cent. A study of 94 mortgaged farms in North Carolina in 1922 showed 87.0 per cent of the mortgaged indebtedness incurred to buy land, 9.6 per cent to make real estate improvements, 1.9 per cent for farm operating expenses, and 1.3 per cent for family living expenses. A study of farm mortgage financing in Texas, by 177 banks and other financial companies, with loans of $252,000,000, showed 42.1 per cent of the loans made to purchase land, 33.5 per cent to pay mortgages, 15.3 per cent to make improvements, and 6.6 per cent to pay short-time debts.

Cost of Long-term Credit. In 1923 interest rates charged by commercial banks on first mortgage loans varied from 5.3 per cent in the East to 9.6 per cent in the Far West, with an average of 6.8 per cent for all loans. In the same year the rate charged by life insurance companies ranged from 5.0 per cent in the East to 8.4 per cent in the West, with an average of 5.3 per cent for all loans. The rate on loans made by the Federal Land Banks and joint stock land banks in 1923 was 5.5 per cent, and uniform throughout the country. Where commissions and other charges are made on loans, they range from one half of 1 per cent to 3 per cent of the loan, making an additional annual charge varying from two-tenths of 1 per cent to 1 per cent. The initial cost of loans from the Federal Land Banks in 1923 varied from less than 1 per cent of the loan on loans over $7,500 to 4.8 per cent of the loan on loans of $1,000 and less.

A number of factors influence interest rates on long-term loans. The large supply of loanable funds in the East keeps rates low in that section, whereas the small supply of such funds keeps rates high in the West. Risks resulting from natural factors, such as poor soil, uncertain weather conditions, and pests cause high rates in certain sections. Rates are low in sections where there are a number of agencies competing to make loans, and high in sections where there are only a few financial agencies making loans. Laws controlling the rate of interest seem to have little or no effect on the actual interest rate, because of the various kinds of extra charges that are made when the rate is limited. Where double taxation exists, the mortagee being taxed on the mortgage and the mortgagor on the land, interest rates seem to be higher, the tax on mortgages being shifted to the land-owners in the rate of interest. In states having special laws favoring the mortgagor in case of foreclosure interest rates seem to run higher. The Federal Land Banks and the joint-stock land banks, with their low rates of interest, seem to have forced down the interest rates in sections where rates were high before these banks began to operate.

The Federal Land Banks.[6] The Federal Land Banks were established in 1916, as a part of the Federal farm loan system. The primary object of these banks was to create cheaper and more convenient long-term mortgage credit for farmers. The general direction of the Federal farm loan system is in the hands of the Federal Farm Loan Board consisting of seven members, six of whom are appointed by the President. The seventh member of the board is the Secretary of the Treasury, who is ex-officio chairman of the board.

Twelve Federal Land Bank districts have been laid out and twelve Land Banks established. Each bank started with an original paid-up capital stock of $750,000, most of which was subscribed by the United States Treasury in accordance with the law, in the failure of individuals and financial institutions to take the stock. The law provided that the capital stock was to be repurchased by the local national farm loan associations as they came into existence and the volume of their loans increased.

Each of the Land Banks is controlled by a board of seven directors, three appointed by the Farm Loan Board, three elected by the national farm loan associations, and the seventh appointed as director at large by the Farm Loan Board, from one of the three persons receiving the highest number of votes for director at large, from votes cast by the farm loan associations. The term of office for directors is three years. The directors choose from among themselves a president, vice-president, and secretary and treasurer. They employ attorneys, clerks, experts and other persons necessary to carry on the work of the Bank. The Federal Farm Loan Board appoints the farm loan registrar and land banks appraisers in each land bank district.

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[6] For explanation of the organization and operation of the Federal Land Banks see Wright, *Farm Mortgage Financing*, Chs. IV and V, and Morman, *Farm Credits in the United States and Canada*, Chs. VI and VII.

Farm Loan Associations. Beneath the superstructure of the Federal Farm Loan Board and the Land Banks are the many local national farm loan associations. Each association is composed of at least ten farmers, who are borrowers of funds from the Land Banks. The sum of the loans of all the members of an association cannot be less than $20,000. For each $100 of loans, the borrower must subscribe for a $5 share of stock. The members of each association elect from among themselves five directors, each member having one vote for each share of stock subscribed for up to twenty shares. No member is permitted to have more than twenty shares. The directors elect a president, vice-president, a secretary-treasurer, and a loan committee of three members. All officers of the association, except the secretary-treasurer, must be members of the association and therefore borrowers.

Members of the farm loan associations must be actual farmers, actively engaged in farming. Loans are made to farmers only on first mortgages on farm lands. The purposes for which loans are made must be strictly agricultural, the purchase of land for agricultural uses, the funding of mortgage indebtedness on farm lands, the purchase of equipment, fertilizer, or live stock, and the improvement of buildings and farm lands. Members of the association may borrow any amount ranging from $100 to $25,000. Loans are limited to 50 per cent of the appraised agricultural value of farms and 20 per cent of the value of permanent improvements. Loans may run from five to forty years. Long-time loans may be paid up any time after five years if the borrower wishes to do so. Loans are repaid on the amortization plan, that is, by regular stipulated installments, which take care of the interest and reduce the principal, so that by a definite date the loan is repaid. Every borrower in the local association is liable to the extent of twice the amount of his stock for losses in the association.

How Federal Land Banks Get Funds. The Land Banks obtain the funds loaned to farmers in several different ways. Each bank has its capital stock, subscribed either by the United States Treasury, or by the farm loan associations, in proportion to the amount loaned to farmers in each association ($5 for each $100 borrowed). However, the banks get most of their funds by issuing bonds on the mortgages that they take on farm property for loans made to farmers. The bonds are tax exempt. The banks are limited by law to an interest rate of not over 6 per cent. Loans are now (1927) being made at 5½ per cent. To the end of 1925 the Land Banks had made loans to 379,875 farmers, amounting to $1,169,356,599. At the end of 1925 the capital of the banks was over $53,000,000 and reserves and surplus over $12,000,000.

Joint-stock Land Banks. The Federal farm loan act also provides for the establishment of other land banks known as joint-stock land banks. These banks are privately organized and managed, but operate under the supervision of the Federal Farm Loan Board. Joint-stock land banks may be organized by ten or more persons, with a minimum capital stock of $250,000. A bank can operate in only two contiguous states. Loans may be made to both farmers and other owners of land. The loans on land cannot exceed 50 per cent of the value of the land and 20 per cent of the value of improvements. Loans up to $50,000 can be made to individuals, provided the loan does not exceed 15 per cent of the capital stock of the bank. Borrowers are not required to live on the land. No restrictions are placed on the use of the money borrowed. The interest rate charged cannot exceed 6 per cent. Loanable funds are secured by issuing bonds on mortgages in the same way as is done by the Federal Land Banks. At the end of 1925 there were 53 joint-stock land banks in operation. During the year 1925 they made 19,699 loans, amounting to $131,430,810. From their establishment to the end of 1925 they had made 83,635 loans, totaling $624,628,615.

Buying Farms with Federal Farm Loans. In 1920 the Bureau of Agricultural Economics made a study of the extent to which the Federal farm loan system facilitates the acquisition of farms by landless farmers, especially those having a small amount of capital. The study showed that only 13 per cent of the loans made up to 1920 had been to purchase land and that only one-third of those borrowing to buy land were landless farmers.[7] The ratio of the loan to the value of the land for landless borrowers was 44.2 per cent. It was suggested in this study, that since the ratio of the loan to the value of the land is low and the payments of interest and principal on Federal farm loans not large, a special system of second-mortgage credit should be developed by the government supplementing the Federal farm loan system and to help promote farm home ownership.

[7] Dept. Bul. 968, U. S. D. A.

Other Long-term Credit Facilities.[8] (1) Commercial banks, state and national, take a leading place in the amount of farm mortgage loans held. They had outstanding mortgage loans of almost one and one-half billion dollars in 1921. Farm mortgage loans by banks usually run for a relatively short period of time, rarely longer than five years. Prior to the Federal Reserve Act of 1913 national banks were not permitted to make loans on the security of real estate. But now national banks may make loans on improved farmlands, on which there is no prior lien, up to 50 per cent of the value of the lands, and in amounts not to exceed one-fourth of the capital and surplus of the bank, or one-third of the average time deposits of the bank. State banks do a much larger land mortgage business than national banks. They have been much less restricted than the national banks in the loans they can make. Trust companies and building and loan associations also do a relatively large farm mortgage business.

(2) The private farm mortgage banks have been specially organized to make loans on farm lands. They operate chiefly in the Middle West and Far West. They make loans on farm lands at 6 and 7 per cent interest in amount ranging from 33⅓ to 75 per cent of the appraised value of the land, for periods running from five to twenty years. The banks have agents in the localities where loans are made, who receive applications for loans, make appraisals of lands offered for security, get the loans for farmers, and collect interest and principal payments.

(3) During the last fifty years life insurance companies have been one of the greatest single factors in farm mort-

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[8] Wright, *Farm Mortgage Financing,* Chs. VI-X; *Agriculture Yearbook,* 1924, pp. 192-198, 208.

gage loans. It was estimated in 1924 that they held $1,781,000,000 in farm mortgages, which was more than 50 per cent of their mortgage loans, and 20 per cent of all farm mortgages. Most of the life insurance loans are made in the Middle West and in the South. The life insurance companies are very effective agencies in mobilizing savings and surplus capital and distributing them in all sections of the country. The larger life insurance companies maintain investment departments, through which their farm loans are handled. They employ local loan agents or correspondents, and appraisers, to handle their business directly with farmers. The smaller insurance companies, investing in farm mortgages, purchase the mortgages from bankers and brokers. Most of the loans of life insurance companies run for periods of from three to ten years.

(4) Former land owners and private investors are important holders of farm mortgages. A study of the indebtedness of owner-operators in 1924 showed that 21 per cent of their debts were held by other farmers and individuals. A study in selected areas in North Carolina showed that individuals held nearly 60 per cent of all farm mortgages. Farmers of the East and Middle West have drawn heavily on this source of farm mortgage credit. Sellers of land advance much of this credit. They take a mortgage for a substantial part of the sale price of the land. Often the purchaser of the farm borrows from a bank and gives a first mortgage on the farm to the bank and makes a substantial payment on the farm, and then the seller takes a second mortgage for the balance.

(5) In a few states funds are made available for long-term farm credit through public school funds and state credit agencies. Permanent school funds and teachers'

retirement funds are invested in farm mortgages. Special funds for long-term advances to soldiers have been created in a number of states. In North Dakota, South Dakota, Minnesota, and Oregon, state farm mortgage credit systems resembling the federal farm loan system in many respects have been organized. Funds are secured from the sale of bonds. Loans varying from $200 to $15,000 are made to farmers at low interest rates and for long periods of time.

C. SHORT-TERM FARM CREDIT[9]

Need and Volume of Short-term Credit. Farmers need short-term credit running from three to six months for such purposes as making seasonal improvements, buying food and feed supplies, automobiles, trucks, machinery, seed, fertilizers, and seasonal livestock, holding products for better prices, and defraying necessary running expenses. The total amount of short-term farm credit has been estimated at from 30 to 35 per cent of the entire amount of farm credit. From reports to the Comptroller of Currency, the United States Department of Agriculture estimated that commercial banks had outstanding in January, 1921, about $3,869,891,000 in personal and collateral loans to farmers. Though little information is available on the volume of merchant credit it is estimated that the amount falls between $1,000,000,000 and $3,000,000,000.

Sources of Short-term Credit. Commercial banks are the most important single source of short-term farm credit. Local merchants, implement dealers, buyers of staple farm products, live stock and produce commission firms, live stock loan companies, fertilizer companies, canning factories, cotton factors, coöperative marketing organizations, and private lenders also make large credit advances to farmers. It was found in selected areas in North Carolina that the amount of merchant credit was nearly three times the amount of short-term cash credit secured from banks and other sources. The percentage distribution of short-term cash credit among different sources in these selected areas was as follows: banks, 61.4 per cent; individuals other than landlords, 29.9 per cent; landlords, 5.6 per cent; credit unions 1.6 per cent; and insurance companies 1.2 per cent. A recent study of short-term farm credit in Texas showed that 83 per cent of the farmers receiving short-term credit obtained all or a part of it from banks, 52 per cent received credit from merchants, and 17 per cent borrowed from individuals.

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[9] Sources of data for this section on short-term farm credit are: Dept. Bul. 1048, Yearbook Separate 915, Dept. Cir. 197, U. S. D. A.; Cornell Sta. Bul. 430; Texas Sta. Bul. 351; "Farm Credit in N. C.," bulletin.

Security of Short-term Credit. A number of practices prevail for establishing the security of short-term farm credit. A study of short-term bank loans to farmers by the United States Department of Agriculture and published in 1921 showed that 36 per cent of the loans were secured by the written promise of the debtor to pay at the proper time, 32 per cent by note with one or more indorsements, 18.3 per cent by mortgage on live stock, 6.2 per cent by crop liens, 4.2 per cent by stocks and bonds, and 3.3 per cent in other ways. In selected areas in North Carolina the distribution of short-term cash credit according to forms of security was found to be as follows: personal note, 50.9 per cent; endorsed note, 37.0 per cent; crop lien, 5.3 per cent; chattel mortgage, 3.7 per cent; stocks and bonds, 2.5 per cent. In the same areas the distribution of merchant credit by forms of security was as follows: open account, 40.9 per cent; crop lien, 33.6 per cent; personal note, 6.1 per cent; endorsed note, 3.4 per cent; chattel mortgage, 1.5 per cent; combination of two forms, 14.3 per cent. A study of short-term cash loans in Texas showed the per cent of total loans secured in different ways to be as follows: personal note, 25.8 per cent; chattel mortgage, 42.9 per cent; one or more indorsements, 16.5 per cent; crop lien, 10.1 per cent; other security, 4.7.

Cost of Short-term Credit. In 1923 the average rate of interest on short-term bank loans varied from 6 per cent in the New England states to nearly 10 per cent in some of the northwestern and southwestern states, with an average of 7.6 per cent for the whole country. There was a slight decline in the average rate of interest on bank loans from 1914 to 1923. The decline was most marked in those regions where rates had been abnormally high. The average rate of interest charged by various agencies for short-term cash loans in selected areas in North Carolina in 1921 was 6.3 per cent. In Texas in 1925 the average rate of interest on short-term bank loans was about 10 per cent. Many banks make additional charges on loans, such as commissions, minimum balance requirements, and collection of interest in advance.

Interest rates on store credit are much higher than on short-term bank credit. The average rate of interest for merchant credit in selected areas in North Carolina in 1921 was 22.3 per cent. Rates charged by different agencies for merchant credit were: landlords, 21.5 per cent; stores, 26.6 per cent; factors, 14.2 per cent; agents, 17.0. During the same year the average cost of merchant credit in Georgia was 24.3 per cent, and in 1923 the average cost of merchant credit in Tennessee was 11.6

per cent. A study of rural store credit in New York in 1921-22 showed that the average rate of interest charged by all stores in these counties was 13.8 per cent, which was from two to three times the usual charge for bank loans. According to a Texas study on merchant credit in 1925 the average rate of interest paid was about 20 per cent.

Short-term Loans Under the Federal Reserve Act. Up to 1913 the banking system of the United States was ill adapted to furnishing short-term credit for farmers. The two outstanding weaknesses in the system from the standpoint of agriculture were inelasticity of funds and loans of too short duration. Large sums of capital are required during the harvesting and marketing seasons to move crops. The farmer needs credit for a longer term than three months, which is the convenient period for commercial bank loans. The Federal Reserve Act of 1913 attempted to remedy these two defects by making special provision for credit suitable to the distinct needs of agriculture. The twelve central Federal Reserve Banks, which are at the head of the great Federal Reserve System, are allowed to rediscount notes, drafts, and bills of exchange drawn for agricultural purposes or secured by staple agricultural products. Also it is provided that notes, drafts, and bills of exchange drawn or issued for agricultural purposes or based on live stock, and having a maturity not exceeding six months, may be discounted in amounts up to a certain percentage of the assets of the Federal Reserve Banks. By these special provisions local banks which are members of the Federal Reserve System (8,043 national banks and 1,544 of the 13,598 state banks in 1924) are enabled to make loans to farmers for agricultural purposes for a period of six months and have the notes taken for the loans rediscounted at the Federal Reserve Banks. The Federal Reserve system now provides the elasticity of funds and the longer period of short-term loans so much needed in the financing of agriculture.

Credit Unions. About a dozen states have enacted laws providing for the establishment of credit unions to help farmers in meeting their short-term credit needs.[10] The credit union is a local cooperative association organized for the purpose of helping its members improve their financial and credit status. The capital stock of the association is secured by issuing small shares of $5 or $10, which can usually be paid up by installments. The credit union associations usually have no buildings and vaults, and no paid officers, except the secretary-treasurer who receives pay for the time actually spent in handling the work of the association. Members of the association have one vote regardless of the number of shares held. Meetings are held weekly, bi-weekly, or monthly at which business matters are transacted. The associations receive deposits from members and make loans to them. In most of the states the associations may borrow money as a collective agency and lend the money to members of the association as individuals. In North Carolina the credit unions have been a big help to small farmers in aiding them to get cash loans at reasonable rates of interest and enabling them to buy supplies at cash prices and avoid paying the high merchant interest rates. The greatest difficulty connected with the administration of credit unions is in getting farmers in the responsible positions who know how to keep accounts, and who know how to make loans and protect the interests of the members of the association. It is doubtful whether credit unions in the United States can do much more to improve the credit status of farmers than they as individuals can do themselves by building up banking connections with local state and national banks.

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[10] Dept. Cir. 197, U. S. D. A.

D. Intermediate Farm Credit[11]

Need for Intermediate Credit. Many farmers need credit for a longer period than three months, which is the convenient period of loans for commercial banks. For the production and marketing of many agricultural products and much live stock, credit is needed for periods running from six months to three years. Farmers now use much more farm machinery than formerly. It is more convenient for them to pay for their machinery over a period of several years than to make full payment for it in a single season. The growing and fattening of livestock requires several years, and the investment of considerable capital. The orderly marketing of farm products, which has been discussed so much in recent years, requires that a large part of the products be stored and placed on the market as there is a demand for them. Under these conditions farmers have been handicapped because they could get loans for only three months from the commercial banks. The only way to meet the situation was for farmers to renew their loans. But renewals were inconvenient and often uncertain. Hence a strong demand grew up among farmers for a form of intermediate credit running from six months to three years, which would more nearly fit their needs. In response to this demand, Congress passed the Intermediate Credit Act in 1923.

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[11] The author wishes to acknowledge Benner's, *The Federal Intermediate Credit System,* as the chief source of this section of this chapter.

Federal Intermediate Credit Banks. The Act provides for Credit Banks attached to the Federal Farm Loan System. Twelve banks were established, each bank serving a district coterminus with a district served by one of the Federal Farm Loan Banks. The officers and directors of the twelve Federal Farm Loan Banks are ex-officio the officers and directors of the twelve Federal Intermediate Credit Banks. However, special officers have been appointed to operate the Intermediate Credit Banks. The accounts of the two systems are kept separate. Capital stock up to $5,000,000 for each Intermediate Credit Bank is subscribed by the United States Treasury. The banks have the power to issue and sell collateral trust debenture bonds, secured by agricultural and live stock paper. In this way they are able to create an elastic fund for agricultural credit needs. The debenture bonds are tax free. The discount rate fixed by the Intermediate Credit Banks is subject to the approval of the Federal Farm Loan Board. The rate of interest charged by the banks cannot exceed 1 per cent more than the rate paid by the banks on the last issued debenture bonds. Any profits of the banks go to the United States Treasury. One-half the net earnings of the banks is placed in a surplus fund until the surplus account equals 100 per cent of the subscribed capital stock of the banks; then only 10 per cent of net earnings are added to the surplus and the rest is paid into the United States Treasury.

How Loans Are Made. The Intermediate Credit Banks do not make loans directly to farmers. They discount or purchase any notes, drafts, bills of exchange, debentures, or other such obligations, the proceeds of which have been advanced or used in the first instance for agricultural purposes or for raising, breeding, or fattening live stock. The banks reach farmers with their loans indirectly by discounting and purchasing the agricultural credit paper brought to them by national and state banks, trust companies, agricultural credit corporations, incorporated live stock companies, savings institutions, cooperative banks, cooperative marketing associations of agricultural products, and other Intermediate Credit Banks. The banks supplement the work of country banks and provide discount facilities for agricultural credit paper. Farmers reach the Intermediate Credit Banks through the institutions mentioned above. An outstanding feature of the Intermediate Credit Bank is the provision for making loans directly to cooperative institutions and associations engaged in the marketing of staple agricultural products. Loans are made to such associations on warehouse receipts, and certificates up to 75 per cent of the value of the products stored in warehouses. Loans cannot be made for less than six months nor for more than three years. Local banks and other institutions having agricultural paper discounted must stand back of the paper as security.

State Credit Corporations. Perhaps the most distinctive feature of the Intermediate Credit System are the agricultural credit corporations. They are special institutions chartered under state laws, designed as local agencies, through which farmers may get funds from the Intermediate Credit Banks. They must be institutions for loaning money for agricultural purposes, and for raising, breeding, and fattening live stock. Live stock loan companies are included in these institutions. These agricultural credit institutions have been organized chiefly in those sections where capital is scarce and interest rates high. In August, 1925, there were 302 of these corporations, the greater part of them in the Mississippi Valley. Many banks have helped organize these credit corporations to take care of special agricultural credit paper and to get freer access to the Intermediate Credit Banks. The credit corporations are allowed to discount ten times as much agricultural paper as they have capital stock and surplus. They have rendered a special service to cooperative marketing organizations in helping them get advanced production credit, which they need so much, in order that they may make advances to member growers and hold their products for orderly marketing through the organizations. Indeed it has been said that advanced production credit is the key to successful cooperative marketing. A number of the big cooperative marketing associations have taken the lead in organizing state credit corporations, so that they can have friendly sources of credit. The credit corporations can lend either directly to farmers in the locality of the corporations, or indirectly to farmers through cooperative marketing associations in any locality in the state.

National Credit Corporations. The Intermediate Credit System also provides for the establishment of national credit corporations. They are subject to Federal control and are supervised by the comptroller of the currency. Charters are granted for these national credit corporations only where there is a distinct economic need for them and where state laws are not adequate to afford protection for loans made on the basis of warehouse receipts and chattel mortgages. National credit corporations must have a paid-in capital stock of $250,000. Their loaning powers are carefully safeguarded. Paper accepted for discount must be secured by chattel mortgages on fattening live stock due in nine months, or by warehouse receipts on non-perishable products stored for not over nine months, or by chattels on maturing breeding and dairy herds due in three years. Careful inspection of all live stock securing loans is required. National credit corporations must keep reserves equal to 25 per cent of their paid-in capital stock. They are permitted to issue debenture bonds. In 1925 only one national credit corporation had been established.

Advantages of the Intermediate Credit System. The Intermediate Credit System has an important place in the financial organization of the United States. It is not a violation of sound banking principles to extend loans to farmers for periods of over six months, when special provision is made for such loans. There is a distinct need for these intermediate loans in agriculture. As agriculture becomes more specialized, as more capital is required for profitable farming, and as cooperative marketing develops, the demand for intermediate credit will increase. The main fields of the Intermediate Credit Banks are: (1) the financing of the range cattle and sheep industry; (2) the financing of cooperative marketing organizations; (3) providing a wider and more elastic market for agricultural and live stock paper; and (4) connecting local credit agencies with the investment institutions in the large industrial and financial centers.

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CHAPTER X

INSURANCE FOR THE FARMER

A. NATURE AND NEED OF FARMERS' INSURANCE

Nature of Insurance. Life and industry are always accompanied by uncertainties and risks. Losses from these hazards may have grave economic consequences for any individual or family. A man may lose a splendid house or barn that has entailed years of saving and sacrifice to construct. He may die suddenly and leave a widow and small children with debts and mortgaged property. Insurance is a social device for lightening the burden of loss on any individual or family. Insurance does not eliminate losses, but distributes the economic burden of losses throughout a group. It minimizes the inconvenience of loss to individuals and families. Insurance may be called cooperative assumption of risk. The development of actuarial science has made possible a fairly accurate estimation of losses in life and property. Of a large number of houses a relatively small number will be destroyed by fire. The fires that occur will be distributed over a certain number of months or years. From what is known of the frequency of fires among a given number of houses over a given length of time, it is possible to estimate how much all the owners of the houses must contribute in order to take care of the losses that occur. Insurance then is strictly a group process. It is a pooling of losses.

Farm Hazards. The farmer has many risks. His buildings, live stock, and implements may be destroyed by fire, or lightning, or tornadoes. Valuable animals may die from disease, crops may be destroyed by hail, or storms, or floods, or fire, or pests, or they may fail to make the average yield because of lack of moisture or of too much moisture. Automobiles and trucks may be wrecked, or may inflict serious damages on the bodies or property of others, which damages must be paid by the owner of the vehicle. Laborers in the employment of the farmer may be injured and the cost of the injury assessed against the farmer. The farmer himself, with debts to pay and with little accumulated wealth, may die. He may become injured or sick, and be unable to earn an income sufficient to take care of his financial obligations. With insufficient property for security, he may need to borrow money. These risks are the bases for several different kinds of insurance among farmers, including property, crop, and life and health insurance.

Advantages of Insurance. There are many advantages in insurance for the individual farmer and the individual farm family. Losses are distributed lightly over a group and do not have to be borne by an individual or an individual family. Many a farmer has received a setback from the loss of a house, or barn and live stock, or crops, from which he was unable to recover. It is scarcely less than a tragedy for a hard-working farm family, which has little wealth, to lose a house or barn and live stock, which carries no insurance. Insurance gives a feeling of safety and security and helps remove the anxiety and worry caused by risks and hazards. In case of destruction of property or crops the insured farmer can go ahead with his regular enterprise, whereas farmers who lose property and crops uninsured are greatly inconvenienced and may be forced to quit farming. Insurance on property, crops, and life strengthens the farmer's credit rating at the bank.

Special Need of Farm Insurance Today. In the old rural community in the United States few farmers carried any kind of insurance. Nevertheless, they might feel fairly secure against heavy losses. Kinship and neighborhood ties were strong. The writer well remembers how kinsmen and neighbors used to help one another in time of fire losses or in case of sickness in the rural community in which he grew up in Piedmont, North Carolina. If a farmer's house or barn burned, friends and neighbors would gather, help cut logs and haul them to the saw mill, and help rebuild the building. If a farmer or his family got sick, or the farmer died, the people of the community would help plant, cultivate, and harvest the crops on the farm. But today kinship and neighborhood ties are not nearly so strong in the farming community. The greater mobility of farmers and the growth of tenant farming have lessened these ties. Again, farmers are assuming greater risks today than formerly. Commercialized farming carries greater risks than self-sufficient farming. The commercial farmer has most of his investment in one or two crop enterprises. If he has a failure or meets some disaster in one or both of his main enterprises his yearly income is greatly reduced or completely wiped out. He has nothing else to fall back upon as had the farmer of several generations ago, who was much less specialized in his production. The farmer today also has a higher standard of living which must be protected against the hazards of loss in farm income. The loss by disaster of the surplus that is used for the purchase and operation of cars, for providing home comforts and conveniences, and for high school and college education, would be greatly missed by a large number of farm families today.

Forms of Insurance. Property, crop, and life insurance for farmers may take one of four different forms. The farmers may group themselves into a *guarantee association* with no capital or subscription dues, in which the losses are met as they occur by pro-rating each loss among all the members belonging to the association. They may form a *mutual insurance* company and pay regular subscriptions calculated to cover the losses that occur among the members of the company. They may insure in a *fixed premium* company, which is run on a capitalistic basis, the premiums being invested by the company, reserves laid aside, and the losses met by the company as they occur. They may through their government set up *state insurance,* and pay premiums to a state bureau or commission and receive compensation for losses from the state, as has been done in Switzerland, Saskatchewan, and North Dakota.

B. Property Insurance

Fire Insurance. Fire insurance is the most universal kind of insurance among farmers. The value of farm property in the United States, insurable against fire in 1920, has been estimated at $26,000,000,000.[1] However, it is not known how much farm property in the United States is insured against fire. Fire insurance carried by farmers is in two kinds of companies: (1) the old line joint-stock companies, and (2) farmers' mutual fire insurance companies. It is estimated that the farmers' mutual companies carry about one-half of the insurance written on farm property.

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[1] *Agriculture Yearbook,* 1924, p. 239.

Farmers' Mutual Fire Insurance Companies. There are now in the United States about 2,000 farmers' mutual fire insurance companies carrying risks of over $8,000,000,000.[2] These companies are located largely in the Middle Atlantic and upper Middle Western states. In Wisconsin, Michigan, Minnesota, Pennsylvania, Connecticut, and Nebraska, from 80 to 95 per cent of all insured farm property is insured in farmers' mutual companies. In the South and Far West only a small percentage of insured farm property is insured in farmers' mutual companies. The unit of operation for these mutual companies is a township, or several townships, or an entire county.

The mutual companies are organized without capital stock. They are managed by a board of five to fifteen directors. In most of the companies the members obligate themselves to pay their pro rata share of the losses and expenses of the company, with unlimited liability. New members are brought into the company by making application to officers in the company. A small initiation fee of one dollar or two dollars is usually charged. Most of the companies work under the assessment plan by which losses and expenses are met by pro-rating at the time of the loss. However, many of the mutuals are beginning to make initial premium charges and annual advance assessments, and some are beginning to build up surpluses and reserves to meet unexpectedly large losses. Adjustment of losses of members is made either by an officer of the company or by the directors of the company.

From 1917 to 1921 the average annual cost per one hundred dollars of insurance carried by the different mutual companies ranged from six cents to fifty-one cents, with an average of twenty-six cents for all the companies, as compared with rates ranging from thirty-five cents to one dollar and fifty cents in the old line commercial companies.[3] The low cost of insurance in the mutual companies is due to the more careful inspection of risks and insistence upon safety by the local officers of the companies, the avoidance of over-insurance, and the low costs of operation, because of the free service of officers, small salaries, and minimum outlays for rent, offices, traveling expenses, and solicitation.

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[2] *Ibid.*, p. 239.

Windstorm Insurance. Studies of the United States Weather Bureau show that during the eight-year period from 1916 to 1923 there were 752 tornadoes in the United States, in which 1,929 people were killed, and estimated damages of $62,000,000 to property.[4] Farmers sustained a considerable part of this heavy property loss. Insurance on farm property against windstorms is carried in both joint-stock companies and mutual companies. Most of the policies of the joint-stock companies insure against both fire and windstorm. Among the mutual companies, some insure against both fire and wind, and others against wind only. Owing to the large sweep and the serious destruction of windstorms, companies carrying windstorm insurance should be organized over wide areas of not less than a state, so that the cost of heavy losses in local areas can be widely distributed. State-wide mutual companies have been organized in Iowa, Indiana, Missouri, Ohio, North Dakota, and South Dakota.

Live Stock Insurance. A large part of the farmers social capital is invested in live stock which needs insurance protection. The breeders of pure-bred live stock have many animals that represent a heavy investment. The annual loss from animal diseases in the United States runs from fourteen to twenty-two per thousand head of horses, twelve to twenty-four per thousand head of cattle, and four to one hundred and forty-four per thousand head of hogs.[5] Live stock and the low costs of operation, because of the free service of officers, small salaries, and minimum outlays for insurance in the United States is written both by commercial joint-stock companies and by farmer's mutual companies. There are twelve or more joint-stock companies that insure against both accident and disease. There are about thirty local mutual companies insuring live stock, the bulk of this insurance being written on horses. In the United States the writing of live stock insurance is still in the experimental stage. A number of the European countries have gone far ahead of the United States in live stock insurance. This may be explained by the greater amount of diseases among cattle and horses in Europe, and also by the larger herds of live stock kept by farmers in the United States, and the relatively small loss resulting from the death of an individual animal.

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[3] *Agriculture Yearbook*, 1924, p. 242.
[4] *Ibid.*, p. 243.

C. Crop Insurance

Investments in Crops. Every year the farmers of the United States invest seven to eight billions of dollars in the production of crops. This huge investment in crops consists of the farmer's own labor, wages paid hired laborers, cost of farm equipment used in producing crops, fertilizer, seed, accumulated savings, and money borrowed to help produce crops. This money is not invested in so many bushels of grain and so many pounds of meat, cotton and tobacco, but rather in the prospects of getting these products as a return for the investment. Hence the farmers of the United States as a class are big risk-takers. Perhaps no other class assumes such big risks as do farmers in producing their crops, or suffers such heavy losses. As farming becomes more and more specialized the risks in producing crops become greater.

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[5] *Ibid.*, p. 244.

Crop Damages and Losses. Crop yields are influenced by climate, plant diseases, and insect pests largely beyond the control of farmers. Over a period of years the average yield per acre varies widely. From 1908 to 1923, the average yield of wheat per acre in the United States varied from twelve to seventeen bushels.[6] In some of the wheat-growing states the average yield varied from less than three to more than thirty bushels per acre. From 1909 to 1918 inclusive, the average annual percentage crop damage to the leading crops in the United States was as follows: wheat, 28.7 per cent; corn, 31.9 per cent; oats, 24.5 per cent; barley, 28.6 per cent; rice, 19.0 per cent; flaxseed, 36.4 per cent; hay, 20.3 per cent; potatoes, 30.1 per cent; tobacco, 20.5 per cent; cotton, 35.4 per cent. The average annual damage to these ten leading crops, on the basis of prevailing prices, ranged from a minimum of $2,054,000,000 in 1912 to a maximum of nearly $3,066,000,000 in 1918.[7] However, it must be recognized that light crops bring higher prices. But these higher prices afford little or no help to the individual farmer who has lost all or most of his crop.

Hail Insurance. Hail insurance has been the most generally available form of crop insurance for farmers. Losses from hail, though not so widespread, are very severe when they occur. The farmers of a hail-swept community lose practically all of their crop and their yearly income. Studies made by the United States Weather Bureau, covering the period from 1906 to 1919, showed the average number of days from May to August with hail, to vary from one to four over the small grain area of the United States. Since losses from hail usually occur on a relatively small number of farms and may be easily singled out from other losses, it has been practical to work out insurance rates for hail damages. There are now forty-one mutual companies and thirty-five joint-stock companies writing hail insurance. Hail insurance reached its greatest volume in 1919, when total risks covered amounted to $560,000,000. In 1923 hail insurance premiums amounted to $18,000,000. Hail insurance rates vary from 3 to 16 per cent of the value of the crop, depending on the locality.[8] The term of hail insurance usually covers the period of crop development.

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[6] *Agriculture Yearbook,* 1924, p. 245.
[7] *Ibid.,* pp. 245-246.

A number of special problems are involved in the writing of hail insurance. Since the business is seasonal and covers a short period, it is difficult to get competent solicitors and adjusters. Hail hazards are very erratic and the ratio of premiums to losses has varied from 41 to 94 per cent in different years. Losses are heaviest in one-crop regions and are often very ruinous. Adjustments of losses are difficult to make. Large reserve funds are necessary to meet heavy and unusual losses. For mutual companies management is a rather difficult problem, because of the widely scattered residence of members. The democratic control, such as is practiced in the mutual hail insurance companies, is almost impossible. Management must be delegated to a few men, owing to the large territory covered by each company.

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[8] *Ibid.*, pp. 248-251.

Examples of Crop Insurance. Aside from hail insurance little crop insurance has been written in the United States. A few joint-stock companies in the Northwest, however, have attempted to furnish farmers general crop insurance.[9] The amount of insurance agreed upon in 1917 was relatively low, seven dollars an acre, and the insurance applied to all grain crops. The insurance covered specified field areas. In case of total crop failures the companies agreed to pay the farmer the full face value of the policy—seven dollars an acre. In case of partial failures the companies agreed to pay farmers the difference between the value of the crop harvested and the full face value of the policy. The policies stipulated that the entire area insured in a given policy was to be considered as a single risk. Partial crops were valued at stipulated prices in the policy and there was no insurance against decline in price. Because of several very bad crop years in the areas where the insurance was written, these first experiments in crop insurance proved disastrous to the companies and they repudiated many of their contracts on the ground that they were unable to make settlements.

In 1920 several fire insurance companies devised plans of general crop insurance. These companies in their contracts have guaranteed farmers a specified income from each acre insured for damages resulting from frost, winter-kill, flood, drought, insects, and plant diseases. No payments are made for damages resulting from tornadoes, wind, hail, fire, failure of crops to germinate, or failure of farmers to seed, cultivate, and harvest properly.

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[9] *Dept. Bul.* 1043, pp. 16-18, U. S. D. A.

The amount of insurance per acre is based on the cost of production. The basis of settlement is the market price of the grain at the time of settlement, the companies thereby giving protection against price decline.

Another type of policy written in the Northwest provides for insurance for each farmer, based on a certain percentage of his average yield during the past five years. The amount of insurance allowed per acre is the average yearly value of the crop per acre for the past five years. A farmer who has had an average of twenty-four bushels of wheat per acre for the last five years and has sold his wheat at an average of one dollar per bushel could insure his wheat at sixteen dollars an acre, or for two-thirds of the average value per acre for the last five years. Two interesting features of this policy are that the indemnity paid by the company shall not exceed the cost of replacing all or any part of the quantitative returns with products of like kind and quantity; and that the indemnity shall not exceed the amount by which the amount insured exceeds the market value of the crop harvested. Hence the company may take advantage of price changes in either direction.

Need for General Crop Insurance. Farm crops are many in number and are subject to many hazards. Farmers need general crop insurance against all hazards which they cannot control. Among the citrus-fruit growers of California and Florida and among the raisin growers of California some forms of insurance have been developed to cover risks in growing these highly specialized crops. As farming assumes more and more a strictly business character, in which the amount of investments increases and the margin of profits decreases, there will be a growing demand for general crop insurance. Under these new conditions of commercial farming, farmers need blanket insurance covering all their crops. No doubt such a form of general crop insurance will be developed in the near future.

A few principles upon which general crop insurance should be established are suggested:[10] (1) The insurance should cover all crops subject to serious financial loss to farmers. (2) The amount of insurance per acre must be reasonable and should cover only actual losses rather than theoretical losses, so that the cost of insurance will not be too great, and so that farmers will not be encouraged to let up in their diligence and precautions in caring for their crops. (3) The amount of insurance on crops should be determined by the actual investments made in producing the crops and should apply to losses below investments. (4) Insurance should cover all hazards over which farmers have no control, precautions being taken against farmer's own negligence. (5) Rates must be established on actually measured hazards and adjustments of losses must be fair to both insured and insurer. (6) Companies writing general crop insurance will need to have their risks rather widely distributed and to accumulate liberal reserves to take care of unusual losses.

Farmers' Self-Insurance. While crops are subject to many hazards over which farmers have no control, farmers may do a number of things to reduce crop risks. A reasonable amount of diversification, so that the farmer does not have all his eggs in one basket, may often prevent the farmer from losing his whole year's labor in a single catastrophe. If a farmer has his capital partly invested in live stock and in a small variety of crops other than his main money crop, it is improbable that he will suffer losses on all these different investments. Crop diseases, insect pests, hail, and drought rarely affect all crops in a community to the same extent. With several crops growing and maturing at different periods of the year, it is not likely that all will suffer from unfavorable climatic influences. In those states where dry weather may hurt crops during the critical growing season, the careful preparation of a seed bed to hold moisture will insure against low yields. In those sections where crops are liable to be damaged by killing frosts, farmers can save themselves losses by giving attention to the data that have been gathered by the Weather Bureau, showing dates of killing frosts in those sections, and thereby adjust their dates of planting and select varieties that will mature within the frost-clear season. Losses can be prevented by testing seed before planting to see that no seed is planted that will not germinate. Some plant diseases, such as smut in small grain, can be prevented by treating the seed before planting. Rotation of crops will help keep down the ravages of some plant diseases. Spraying and poisoning will eliminate or greatly reduce losses from insects. Laying up a reserve during years of good crops and returns, against years when losses are great or incomes low, is one of the most effective means of self-insurance. The reserve against lean years may take the form of a savings account, or investments in bonds that can be readily sold, or a life insurance policy with loans and cash surrender features. Such a reserve will give the farmer a feeling of safety against possible crop disasters and save him many financial worries.

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[10] Dept. Bul. 1043, pp. 26-27, U. S. D. A.

D. Life Insurance for the Farmer

Economic Value of Life Insurance. While life is longer and healthier in the country than in the city, there is a need in the farmer's economy for life insurance. The primary object of life insurance, of course, is to provide protection for dependents. Young farmers with families of several children are often in debt and have encumbrances on their farms or their equipment. In case of death of the farmer, there is a break in the management of the farm, and a loss of the farmer's labor income to the family. Debts come due. Children need to be educated. The farmer's widow and children may be thrown into precarious financial circumstances, and even lose their farm and other property. A few thousand dollars of life insurance would help a widow and children tremendously in such circumstances. Again, life insurance may be an effective way of saving. Life insurance also strengthens the farmer's credit position. Banks and individuals are more ready to make loans to persons with little property, who carry life insurance, than to persons who do not, because in case of death of the borrower who has life insurance there is much stronger probability that dependents will be able to repay the loan. There are several different forms of life insurance available to the farmer and he should choose the type of policy best suited to his peculiar needs and circumstances.

The Term Policy. The term policy is the cheapest type of life insurance. The term policy provides only for the actual risk of life during the term it covers and has no cash and surrender value. No part of the premium paid by the insured is for savings. The policy holder gets only protection for the term he is insured. In case of death the heirs are paid the amount for which the holder of the policy was insured. Premiums on the term policy must be paid yearly as long as the holder wishes to be insured. The chief advantage of the term policy is that it is cheap and can be carried at the same time debts are being paid or when no other more expensive could be carried. The premium rates on term policies usually vary each year, becoming heavier as one advances in years. The term policy is best suited to the farmer who can spend only a limited sum on life insurance, whose income is small, and who perhaps is still paying for a farm and home, or for farm equipment.

Ordinary Life Policy. The ordinary life policy has a higher premium rate than the term policy. The premium rate is set at a fixed amount which remains the same throughout the life of the insured. The rates are higher in earlier years than rates of the term policy, but are lower in middle age and old age. The advantages of this policy are that the insurance does not have to be renewed periodically, and that the annual premium remains the same throughout life, permitting the insured to pay heavier in early life, and relieving him from heavy payments in late life. The ordinary life policy like the term policy gives only protection. The insured pays premiums during the entire length of his life. At death of the insured, heirs receive the face value of the policy. For the farmer who can make the payments in early life the ordinary life policy is better than the term policy.

The Limited Payment Policy. In the limited payment policy, all premiums are paid within definitely stipulated periods as ten, fifteen, twenty, twenty-five or thirty years, and the policy matures at the death of the insured. Premiums on this policy must be sufficiently high during the period of payments to take care of all costs of risk during the life of the insured. The advantage of this policy is that it allows all payments to be made during a limited number of years, particularly during the productive period of life. For the young farmer, who already owns his farm and other property free of encumbrance, who has a good home, and is receiving a good steady income, the limited payment policy is very desirable. During the most active period of life and when the farm income is high and steady, the premiums are paid and there is no burden of premiums in later life. The limited payment policy has a cash loan value which may be of great advantage to the farmer at a time when heavy expenses beyond regular income must be met.

The Endowment Policy. The endowment policy provides for a combination of savings and life insurance. The premiums paid take care of the insurance risk and also provide a savings fund for the insured. The policy affords life insurance during the period that it is being paid and matures at a stipulated time after payments are made, allowing the insured to get a cash value for the policy, perhaps at a time when he no longer has dependents and when he himself needs his savings. The endowment policy affords a definite and systematic method of saving. The premiums fall due at definitely fixed periods. The endowment policy is most desirable for the young man who has a steady income, who is not in debt, who needs to make systematic savings, and who does not know how to invest his savings himself. Because the premiums are necessarily high, the endowment policy may not suit the needs of the young farmer who has not inherited wealth and who has many obligations to meet in paying for his farm and equipment, and in improving his home. Such a farmer is already making savings.

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CHAPTER XI

FARM LABOR

A. Character and Problems of Farm Labor

Farm Labor Requirements. Farm labor, aside from farm management, is of many different kinds. Farm work that must be done on most farms in the United States includes plowing, harrowing, cultivating, harvesting, clearing, ditching, draining, making and repairing fences, repairing buildings and machinery, caring for live stock, milking, butter-making, preparing products for market, hauling to and from the market, and the doing of numerous small chores about the farm. The above list of activities does not include the work of keeping the home, such as cooking, washing, sweeping, ironing, gardening, and many other tasks, which are usually not thought of as productive farm work, but all of which are supplementary to the regular farm work and have an economic significance.

General Character of Farm Labor. Farm labor has several outstanding characteristics. It is outdoor work for the most part. It is usually heavy work, requiring physical strength and endurance. It is chiefly unskilled work. The hours for farm work are not standardized, the work day being very long in some seasons and very short in others. The work is varied and changing. Usually farm work is solitary, or, at most, group work of only a few persons. Farm labor is self-employment for the farm operator. The hired laborer on the farm is thrown more on his own initiative and responsibility, because he is little supervised during regular working hours. Agriculture affords a splendid opportunity for the boy growing up on the farm to learn how to do different kinds of farm work and how to manage a farm. Farm work demands that all the members of the family work together as a unit and coordinate their various special activities.

Who Does the Farm Work? Farm work in the United States is done by farmers themselves, by their wives and children, and by hired farm laborers. Most farm operators put in full time as farm workers during the work seasons. They do the chore work the whole year round, and work at odds and ends during the slack seasons. Many farm operators do practically all of their farm work. Children help to do light tasks about the farm after they are ten or twelve years old. Many young men between the ages of eighteen and twenty-one remain on the farm with their parents and help do the farm work. In some sections farm women do a considerable amount of field work, particularly in the South. The farmer and the members of his family do by far the greater part of farm work. In 1920 there were 10,647,438 persons doing farm work in the United States, of whom 6,448,343 were farm operators, and 4,041,627 farm laborers. Among the farm laborers were 792,915 women, chiefly negro women in the South. Among the more than six million farm operators are over half a million croppers who are essentially farm laborers. In 1920 44.8 per cent of all farms reported hired labor. The average yearly amount paid out for labor per farm on farms employing hired labor was $469. The percentage of farms reporting hired labor varied from 23.6 per cent of all farms in the East South

Central states to 61.4 per cent in the Middle Atlantic and West North Central states. On more than half of the farms in the United States no hired farm laborers were employed in 1920. On these farms the farmer and the members of his family did all the farm work. The family-size farm is still the general type of farm in the United States.

Types of Hired Farm Laborers. There are several different types of hired farm laborers in the United States. Many boys receive wages as hired laborers working on their fathers' farms. Neighboring boys often work for wages on nearby farms. A few city boys work on farms for wages during rush seasons. Many hired laborers work regularly on farms the year round. In some sections there is a large number of seasonal laborers who come in from other work because of the high farm wages for the season. There is a class of wandering hoboes who drift about and work a few days at a time here and there on farms. In some trucking and fruit sections women and children go out to work on farms for short periods during busy seasons. Some college students work on farms for wages during their vacation.

Varying Status of Hired Farm Laborer. There is a wide difference in the attitudes assumed towards hired farm laborers in different sections of the United States. In the Northeast and upper Middle West the hired farm laborer is usually taken into the farm home on very much the same level as the members of the farm family. He is given a room in the farm home, eats at the same table with the members of the farm family, is a member of the evening fire circle, accompanies the family to the various social gatherings in the neighborhood, and participates fully in the social and institutional life of the community.

Often the farm laborer is a neighboring farm boy or a recently arrived immigrant and belongs to the same social class as the family for which he is working. He may aspire to become a farm tenant and eventually a farm owner in the neighborhood.

Another type of farm laborer found in more limited numbers in the Northeast and upper Middle West is the married farm laborer who lives in a separate cottage on the farm on which he works, or who owns a small patch of ground and his own cottage in the neighborhood in which he works. He is a sort of cotter after the European type. He has no ambition to become a tenant or owner. This type of farm laborer usually furnishes his own board and does not become a member of his employer's family circle. In many communities this type of farm laborer and his family are not regarded as belonging to the same social class as the employers and their families.

In the wheat and other sections of the West, where there is a great demand for seasonal labor and a large number of migratory farm laborers, the farm laborer is not taken into the farm home as a member of the family circle. The laborer usually furnishes his own bedding and sleeps in the barn, or in a tent, or in a cheaply constructed bunkhouse. Meals are furnished from a kitchen wagon by the employer. Laborers in these sections find their recreation in the near-by towns, where they gather over week ends about pool halls and other places of commercial recreation.

In the South unmarried white farm laborers usually have a room in the farm home where they work and eat their meals at the same table with the employer and the employer's family. But in most neighborhoods these farm laborers are not regarded as belonging to the same social class as the employer and his family. Married white farm workers live in their own cottages or in cottages on the farms of employers. Their families are usually not taken into the social circle of the employing class. They associate themselves with tenant and cropper families in many communities. Towards negro farm laborers a caste attitude is assumed by white employers. Negro farm laborers live in separate cottages. They do not associate in any way with the white employer's family. If meals are furnished negro laborers by white farmers, they eat at separate tables in different rooms.

Seasonal Demand for Farm Labor. Few farms can furnish regular employment to the same number of farm workers for all months in the year. In the wheat and corn sections the bulk of farm work must be done during five or six months. In the tobacco and cotton sections there are busy seasons for about the same number of months. Even in those sections where mixed farming is carried on there is a great variation in the amount of farm work that must be done from season to season. This uneven demand for farm labor is inevitable. Farm work and farm practices must be adjusted to the varying factors of climate and change of seasons. Planting, cultivating, and harvesting on many farms require more labor than can be supplied by the farm family. Extra labor must be employed. Then follow slack seasons when the farmer himself is not kept busy. Hired farm labor is not needed.

Effects of Seasonal Farm Labor. Several writers have pointed out the social and economic effects of seasonal labor on the farm laborer. It tends to make him a wanderer. Working for an employer only a short time, and changing employers in the same season, and in different seasons, the farm laborer does not develop a personal acquaintance and relation with his employer. He does not feel the responsibility of making his work effective and profitable for the employer. Farmers needing laborers for only a short time often do not furnish adequate shelter and good food for their workers. Hostility develops out of these conditions between employing farmers and farm laborers. Labor troubles follow. Again, the laborers do not establish any permanent group or institutional relationships in the farming community. There is a widening social gap between the employer and employee.

Streams of Migratory Labor. The seasonal demands for farm labor in different sections of the United States have given rise to streams of migratory labor.[1] Along the Atlantic coast through the trucking region, a stream flows from Florida to New York and to New England. This stream of laborers begins with winter work in Florida and flows north as the season advances, reappearing each winter in Florida and flowing north. A second noticeable stream is in the western plains region of wheat farming, which begins in Texas in late May and early June and flows north through Oklahoma, Kansas, Nebraska, and the Dakotas into Canada, first helping to harvest winter wheat, and then going on into the spring wheat region. This stream is made up of many different types of workers including students, farm boys, city workers, and some professional migrants. Another migratory stream is found in the Pacific Coast states. It begins in Southern California in the early trucking seasons, moves northward into the California wheat section and into the northern fruit belt, then on into the wheat sections of Oregon and Washington, Idaho, and Montana, and finally into the fruit valleys of these states in the early and late fall. There are also numerous smaller labor streams, as between woods and harvest fields, between town and country, and between different agricultural sections.

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[1] Spillman, *Farm Management*, pp. 380-382.

Seeming Shortage of Farm Labor. The general complaint of farmers is that farm labor is scarce and dear. From this viewpoint the supply of farm labor is decidedly limited. There has been a decrease in the number of farm laborers per one thousand acres of farmed land in the United States during the last thirty years. By scarcity and dearness of farm labor, farmers may mean one of several things. They often mean that farm labor cannot be hired for the same wage that was paid a generation ago, or even sixteen years ago. They do not take into consideration the changed price level. They do not understand and appreciate the influence that the development of many competing industries of some sections has had on general wages. Again, when farmers complain of scarce and high farm labor, they mean that they cannot employ farm laborers cheaply during rush seasons when all other farmers are bidding for labor. They overlook the price they have to pay for the months of idleness when the farm laborer can find little or no work to do. With some farmers the shortage of farm labor is in the quality of the labor. These farmers complain that farm laborers are not content to work long hours, at many different tasks, and that they are not the responsible type of farm laborer found on farms a generation ago. These farmers do not realize that the number of hours in the standard day of work has been reduced materially in most industries, and that labor in general today demands more favorable working conditions.

Unequal sectional distribution of labor makes labor scarce in some communities. Other factors that have helped to produce a farm labor shortage are increased years of schooling for farm children, smaller farm families, less field work done by women, less immigrant labor going to farms, and an increasing number of farm tenants.

Grievances of Farm Laborers. Just as farmers usually have complaints to make against farm laborers, so farm laborers have grievances against their employers. Work on the farm is irregular, necessarily interrupted by weather and slowed up by changing seasons. Hours of labor are not standardized, being very long during rush seasons. The food and shelter given farm laborers are often poor. Workers feel the great isolation out on the farm away from the kinds of amusements they enjoy. Most of them have no transportation facilities of their own and farmers do not provide them a way to get to town. Also the kind of work and the additional chores to be done in connection with regular farm work are not always truthfully represented to the laborer when the labor contract is made. Some farmers do not live scrupulously up to their contracts.

B. FACTORS DETERMINING FARM WAGES

Farm Wages in the United States. The *Agriculture Yearbook* for 1925 gives the average monthly wages for farm laborers in the United States from 1880 to 1925. Average farm wages for this period, with board and without board, and indexes based on the period of 1910-1918 are given in Table 12.

This table shows the average monthly farm wage calculated on a yearly basis. In 1925 the average yearly wage without board was $573. During the peak of highest prices, in 1920, the yearly wage without board was less than $800. Data collected by the United States Department of Agriculture in 1925 show a wide variation in the average monthly wages of farm laborers in different sections of the country. In the North Atlantic states, the wage was $44, in the North Central states, $39; in the South Atlantic and the South Central states, $25; in the Western states, $50; and in the United States as a whole, $33. The wage in the Western states was double the wage in the South. The National Bureau of Economic Research gives the average annual wage for several different classes of industries in 1919 as follows: mining, $1,300; manufacturing, $1,160; transportation, $1,250; clerical positions, $1,200. For the same year the *Agriculture Yearbook* gives the average wage of farm laborers without board as $672. The average wage for

TABLE 12. FARM WAGES AND INDEX, 1880-1925

Year	*With Board*	*Without Board*	*Index from 1910-1913*
1880	$11.70	$17.53	59
1885	13.08	19.22	65
1890	13.29	19.45	66
1895	12.75	18.74	62
1902	15.51	22.12	76
1906	18.73	26.19	92
1910	19.58	28.04	97
1914	20.90	29.72	101
1916	23.04	32.58	112
1918	35.12	49.13	176
1920	47.24	65.05	239
1922	29.31	42.09	146
1924	33.34	47.22	166
1925	33.88	47.80	168

different types of industrial workers in cities prior to 1914 ranged from $500 to $800. For farm laborers without board the average wage was around $350.

However, in comparing farm wages with the wages of industrial workers in other occupations, it must be kept in mind that farm wage earners on many farms are allowed the use of a cottage and a garden for which they are not required to pay rent. Also, living costs are cheaper in rural communities than in urban communities. These advantages for the farm wage earner tend to compensate for the low wage received.

Lower and Upper Limits of Wages. Many theories have been advanced by economists to explain the price paid as wages. Economists today are by no means agreed on their explanations of wages. In our discussion of farm labor we shall try to point out the upper and lower limits of wages and how the play of different factors tend to raise and lower wages. The lowest wage for which workers can possibly work is a wage that will maintain them in a state of health and vitality, so that they can do their work and raise their families. If wages become too low, the standard of living of workers is forced down, causing sickness and a high death rate, and eventually a scarcity of laborers, which scarcity will then cause wages to rise. On the other hand, there is an upper limit beyond which wages cannot go, and this upper limit is the economic productivity of the worker to the employer. Employers cannot pay workers more than they gain by hiring them. The maximum wage that employers can pay laborers is determined by the economic productivity of the workers.

Factors Determining Wage Levels. Within these lower and upper limits wages for any given time are determined by a large number of factors. While labor is not a commodity in the strict sense that hogs, cattle, and pig iron are commodities, nevertheless labor is a service offered and sold on the labor market for a price, and is therefore subject to the laws of valuation, supply and demand, under certain limitations. The level of wages at any one time is largely a result of the interaction of the demand for laborers and the supply of laborers. "So far as the wages of any one kind of labor are concerned, they will tend to be fixed at the point where the supply of that kind of labor and the demand for it are in equilibrium."

The demand for labor in any particular industry is determined by the demand for the products of that industry, by the purchasing power of the consumers of the products, by the transportation facilities available for distributing the products, by the efficiency of the sales system for selling the products, by the elasticity of the consumption of the products, by the quality of the products, by the amount of capital available to develop the industry, and by the facility with which capital can be substituted for labor in the industry.

On the other hand the supply of labor in any particular industry depends on the general growth of population, on the growth of population among the workers in the industry, on the amount of skill and technical knowledge required of workers in the industry, on facilities for receiving technical training, on the ease with which workers can pass from other industries into that industry, on immigration, on the attractiveness, the agreeableness, the risks, the dangers, and the regularity of employment of the industry, on the standard of living of the workers of the industry, on their reserves of wealth, and on their combined bargaining power.

Wages are also affected by custom price. In periods of rising prices wages lag behind commodity prices, and in periods of falling prices wages do not fall as rapidly as commodity prices, because custom tends to hold wages at any established level. Governments affect wages by various regulatory measures such as minimum wage laws, prohibition of child and woman labor, and limitation of working hours.

Factors Influencing Farm Wages. As already pointed out farm wages in the United States have been lower than wages in other industries. A number of factors are responsible for this fact. Farming itself has been a low paying industry. It has been an industry easily entered, and hence a highly competitive industry. Farm products have been cheap as compared with other products. Low farm incomes have made it impossible for farmers to pay high wages. For a long time the inertia of the rural population kept a vast majority of farm boys on the farm and agriculture was a crowded industry. The large amount of good farming land in the United States that could be bought cheaply or homesteaded caused agriculture to be developed more rapidly than other industries and kept incomes and wages low in agriculture. Women and children have done much of the farm work and cut down the demand for hired labor. Because of poor rural school facilities, a large number of farm boys have begun full-time work on their fathers' farms at an early age, or have sought employment on other farms as regular farm hands. The rapid improvement and the extensive use of farm machinery have enabled farmers to get along with a small amount of hired labor. Custom price is a greater force in controlling wages in agriculture than in other industries. The standard of living of most farm laborers has been low and they have been satisfied with a low wage. There are no labor unions among farm workers attempting to restrict the supply of farm labor. Many farm laborers work at other jobs and do not depend entirely on the wages they receive for farm work for their living. Large rural families have helped make farm labor abundant. Each one of these factors has had some influence in keeping farm wages low.

Why Farm Labor Is Not Unionized. In the United States farm labor has not been unionized. A few sporadic attempts have been made to unionize farm laborers in several localities, but no permanent union of farm wage earners has ever been effected. There are several reasons for this lack of organization among farm wage earners.[2] The labor movement is young in America. Experience in all European countries shows that farm laborers are the last and most difficult to be organized. The number of farm laborers per establishment is small. They are scattered. It is difficult for them to get together to discuss grievances. A rather personal relation exists between farm employers and farm wage workers. A large number of farm wage earners are working for wages only a short time and plan to become tenants and owners. The majority of farm laborers do not work long for one employer. Farm laborers have read very little and have not reflected much on their economic status. It is difficult for labor organizers to reach farm laborers. Conditions of work on farms differ widely and farm laborers do not find common grounds in their grievances. The farm employer himself usually works side by side with his employees and the employees know that he receives a low income.

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[2] Gray, *Introduction to Agricultural Economics,* pp. 376-377.

C. Management and Care of Farm Labor

Farm Labor Still a Problem. In 1920 there were about two and one-half million hired farm laborers in the United States. It is not likely that the number of hired farm laborers will decrease. On the other hand it is probable that the number will increase. In some sections farm laborers may take the place of tenants and small owners. As rural high school facilities increase a larger number of farm boys between fourteen and eighteen years of age will continue in school and it will be necessary to hire farm laborers to take their place. No doubt there will be an increase in the amount of strictly capitalistic farming in which the chief reliance for labor will be on hired help. Standards of labor and employment that have been developed in other industries will be demanded by laborers in agriculture. In any event those farmers employing laborers have problems ahead that demand their most careful attention. Among the most progressive labor employers in other industries, a science and art of labor management have begun to develop, which have proved advantageous to both employers and employees. It will be worth while for employers of farm labor to study these new labor management practices of industrial employers and try to apply those that are suitable in their management of farm labor.

Managing to Keep Laborers Busy. As already stated one of the greatest problems connected with farm labor is the irregular and seasonal demand. Farm work piles up during a few months in the year. Months and seasons of comparative idleness follow. Laborers who depend primarily on farm labor for their income are out of work for a large part of the year. Employment is irregular. The chief problem in this connection is to adjust the farm enterprise, so that farm labor can be spread out over a greater number of days in the year. Without question there are sharp limits in some sections in the degree to which this can be done. Nevertheless a great deal can be done in most sections to keep farm laborers employed a greater number of days in the year, by diversification, by the growing of supplementary crops, by keeping more live stock, and by planning to do ditching, fencing, building, and repairing during slack seasons. Both farmers and laborers will profit by such adjustments.

Organizing the Farm for the Use of Farm Labor. A number of steps can be taken on the average farm to secure more effective use of farm labor. Proper units of labor, land, and equipment can be combined, so that labor will be most productive. In fitting out teams and in purchasing machines the amount of labor required to operate them should be carefully calculated. Fields can be laid out, so that a minimum of time is wasted in going to and coming from them. If machinery and live stock are kept in good condition laborers can go right along with their work without interruption. Farm buildings can be constructed so that laborers are not detained too long doing necessary chores.

Standardization of Farm Work. Work on the farm is little standardized. When a laborer applies for a job in a manufacturing establishment the first question asked him is what he is fitted to do. The work in manufacturing plants has been standardized. There are different kinds of jobs for men differing in training, experience, and skill. But for most farm work it has been assumed that one farm hand is just about as good as another. The assumption is far from the truth. Farm laborers differ widely in their ability, skill, and past experience. Some of them are entirely unfitted for certain kinds of farm work. While there are limits to the extent to which farm work can be standardized, much more could be done in discovering and adopting qualifications for different kinds of farm work and in selecting men that fit their jobs. Standardization of hours of work per day and conditions under which work is done is needed. When farm laborers are hired now, there is generally no definite understanding about such important matters as hours of work per day, the kind of rooming and boarding facilities to be supplied, and other matters of importance to the farm laborer.

Developing Interest and Efficiency in Laborers. It is well known that the laborer does more work and is more efficient when he has an interest in his work. Efforts should be made by the farm employer to discover the interest of his employees, and so far as possible, to allow a development of those interests. With a little patience and toleration on the part of farm employers, farm laborers can often be led to interest themselves in livestock, machinery, cultivation of the growing crops, and in the system of management. The laborer will be more interested in the work of the farm if he is taken into the confidence of the employer and made to feel that the welfare of the farmer is his own welfare. The laborer should be made to feel that the whole enterprise is of as much importance to him as to the farmer himself.

Personal Element in Supervision. Farm labor is always under supervision. Here the personal element counts largely. The farmer who shows good will towards his employees and tries to deal with them fairly will usually get the best from those workers who are sincere and honest and industrious. Human nature in most men responds to kindness and consideration. By taking pains to make directions clear-cut and plain, not expecting too much, setting reasonable tasks and insisting upon their faithful performance, the farmer will usually command the respect and secure the good will and the faithful industry of farm laborers. Where men are worked in crews under hired foremen it is particularly necessary that kindly attitudes be taken towards laborers. Fair examples must be set by the operator. Dealings must be straightforward, sincere, and honest. The manager should be approachable on all matters. Laborers always delight in having a leader who can go ahead and set a reasonable pace for them to follow.

Profit-Sharing and Partnership Farming. Profit sharing is practiced by a small number of farmers in the United States. Not enough has been done along this line to demonstrate its possibilities as a solution of the farm labor problem. However, profit sharing has made great advances in other industries and no doubt it will be tried on many farms in the future. Some farmers pay their laborers a part of their net profits in addition to their wages. Others pay a bonus at the end of the year. Because farm laborers are in close touch with their employers and see clearly the relationship between their efforts and the success of the farm enterprise, profit sharing may be found to be more suited to agriculture than to most other industries.

Care of the Unmarried Farm Laborer. As stated above a big complaint of the farm laborer is over board and living quarters. There is much that can be done by farmers that will pay good returns in the long run, in providing better board and rooming facilities for farm laborers, particularly on those farms where farm laborers work the year round. The unmarried hired man has no home except as he finds it in the home of the farmer for whom he works. He needs good food and will demand it if he is to remain long on his job. He wishes a room that is comfortable. Both rooming quarters and board are essential for contentment and the best work of the laborer. On farms where a large number of men are employed a great deal can be done by constructing comfortable rooming quarters, and by providing well prepared food. Good food can be furnished by employing a cook who knows how to plan and prepare meals. Farm laborers engaged in hard work during rush seasonal periods need good food and a variety of foods. Many farmers make the mistake of trying to maintain crews on fatback, canned beans, and stale bread. Such a diet becomes dreadfully monotonous and drives laborers in search of other jobs.

Care of the Married Farm Laborer. A different problem arises with the married farm laborer. He usually wants a house for his family. The married farm laborer is likely to be more settled and to remain longer in employment than the single man, particularly if he finds a comfortable little house to live in where he works. In most farming communities in the United States, little attention has been given to the housing of the married farm laborer. He has been compelled to live in an old tumbledown house or in a cheaply constructed shack. On those farms where farm laborers are needed for regular and permanent work it will pay farmers in the long run to construct small comfortable living cottages for married laborers. The construction of such cottages will pay farmers good dividends. Farm laborers with families should also be allowed to have a garden, small truck patches, a cow, and chickens, if they desire them.

Transportation to Town. Of great concern to most farm laborers is the weekly visit to town. Farm laborers go to town for recreation, for a shave and haircut, for diversion, to meet their friends, and for various other reasons. When the farm is some distance from the town the farm laborer may have difficulties in getting to and from town. Farmers can get the good will of workers by providing for their transportation to and from town. This can be done without great inconvenience to the farmer, who has trucks and automobiles available, and it means very much to the farm laborer. Even though a seemingly minor matter, the provision of transportation to and from town helps to make for good will between farmers and laborers, and pays the farmer in dollars and cents in the long run.

Taking Laborers into the Community. Most often the farm laborer does not feel himself an integral part of the rural community life about him. He is not a part of the community group, does not participate in the institutional life of the community. More can be done in the way of getting the farm laborer to participate more actively in rural community life. Farmers themselves can do much in bringing this about by inviting workers to attend community functions along with them, and making them feel at home in the community circle. This calls for the practice of democracy. Particularly should the married farm laborer and his family be brought into the community life. Schools, churches, community clubs, and farm organizations have a great opportunity to render an essential service to this socially impoverished class by bringing them into the social life of the community.

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CHAPTER XII

FARM MANAGEMENT

A. NATURE OF FARM MANAGEMENT

Farm Management. In their productive enterprises farmers use labor, land, buildings, live stock, machines, vehicles, fertilizer, seed and various other goods. These different factors of production must be combined, coordinated, and made to work together for economy—to give the greatest output for the least input, in terms of price. In effecting the proper arrangement and combination of all these factors of production, many other factors such as available markets, amount of capital, location of the farm, soils, climate, types of farming, size of farms, layout of fields, cost of different kinds of productive goods, cost of labor; cost of producing different kinds of products, and many smaller details must be taken into consideration. The art of combining the various factors of production and adjusting the entire productive process so as to secure the greatest economy is farm management. It is with the business side of farming rather than the technical-scientific side that farm management is concerned. Different writers on farm management have defined it as "the science of the organization and management of a farm enterprise for the purpose of securing the greatest continuous profit;"[1] "the utilization of sound principles in the selection, organization, and conduct of an individual farm business for the purpose of obtaining the greatest possible profit;"[2] "the business aspects of farming, as opposed to its technical aspects."[3]

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[1] Warren, *Farm Management.*

Unique Character of Farm Management. In many industries management has become a highly specialized process. Capital is furnished by one group and labor by another. Managers assemble capital and hire labor, and combine capital and labor in the most economical proportions for the production of goods. However, in agriculture the great majority of farmers assume the rôle of capitalist, laborer, and manager, three in one. Most farmers own all or a part of their capital. They work as laborers on their farms. They manage their farming operations. There are some exceptions to this generalization. On a few large farms all the farm labor is hired and the farmer does nothing but manage and direct farming operations. But these large, managed farms are the exception rather than the rule in the United States.

Widening Scope of Farm Management. In the days of self-sufficing farming, when farmers produced what they consumed and consumed what they produced, farm management was limited chiefly to the internal organization and management of the farm. The problems of farm management lay within the line fence of each farm. Few or no external economic factors influenced the farmer's income and profits. Then the farmer had only to decide how much of different kinds of crops and how many of different kinds of animals he would raise and how much labor he would spend on different farming operations. His income, in the form of animal and crop products, was determined primarily by the amount of time he spent in his farming operations and by his wisdom and skill in combining his labor and capital in the most economical proportions. These internal administrative problems of the farm are still an important part of farm management.

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[2] Adams, *Farm Management,* p. 1.
[3] Spillman, *Farm Management,* preface.

However, the farmer of today finds himself confronted with many external economic factors that influence his income and profits, to which he must adjust his farming operations. Among the most important of these external economic factors are the price of land and other factors of production, markets, demand and supply of different kinds of farm products, price cycles, interest rates, cost of labor, transportation costs, tariffs, governmental regulations, and taxation. How all these external factors affect farm income and profits must be carefully considered by the successful farmer today. Hence some of the most important problems of farm management are those problems of adjusting the internal organization and management of the farm to the external economic factors, that are largely beyond the control of the individual farmer. As farming becomes more commercialized, it becomes more essential for farmers to adjust their farming operations to these external economic factors.

Profits—the Goal of Management. The objective of farm management is the maximum net income that can be obtained from the farm. The farmer as a manager wishes to get the largest output for the least input. Since the factors of production are so varied, and the different kinds of products the farmer gets from his farm so varied, it is necessary in an economic analysis of farming operations to reduce all the factors of input and output to values, or price. Only by so doing can output per input be calculated. In our modern commercialized agriculture, the farmer thinks of his input for any given farming operation as the price cost of the labor and of the other factors of production that are necessary for the enterprise. The output, or income, is thought of as so many dollars.

It is important to keep in mind that the central problem of management is to get the largest economic output for the least economic input. The successful farm manager is interested in large output per acre or large output per animal only in so far as these large outputs are obtained economically, by small inputs per unit of output. The chief concern of the good farm manager is that he have a profit left after all the costs of production have been met. The management problem is as important in extensive as in intensive farming. The farmer has ever before him the problem of economizing in the different factors of production. He must decide whether he will use more or less land, more or less labor, more or less machinery, more or less live stock or power, more or less fertilizer, more or less of the minor factors of production. Scientific farm management consists of using and combining the different factors of production, so that the farm will yield the greatest net profit continuously.

Financial Analysis of the Farm Business. The students of farm management in the United States have devised a standard method for determining farm income.[4] The method is to get the gross income of the farm and to subtract from this gross income all the costs of operating the farm, the remainder being the net income, which is the farm income. Gross income consists of receipts from the sale of products, net annual gain from appreciation of farm property, living obtained from the farm, and board of hired labor obtained from the farm. Charges to be deducted from gross income consist of farm expenses, depreciation of property, value of board of laborers obtained from farm products, and value of farm labor and the operator's labor. The per cent of farm income to farm capital is obtained by dividing the income by the total capital. The term labor income is frequently used in connection with farm income. The labor income is the amount that is left after deducting from the farm income a certain per cent on the value of the capital of the farm, usually 5 per cent. Operator's income is obtained by adding to the labor income the value of the operator's labor. The farm family income is obtained by adding to the operator's income the amount allowed for family labor.

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[4] Gray, *Introduction to Agricultural Economics,* Ch. IV.

Variations in Managerial Ability. In almost every farming community in the United States will be found a number of farms of about the same size and the same degree of fertility, and employing about the same amount of labor and equipment, but yielding very different net incomes, ranging from practically nothing or even a deficit to fifteen hundred or two thousand dollars. When an economic analysis is made of the incomes and the farming operations on these farms, it is found that the differences in incomes are due primarily to differences in the managerial ability of the farmers. The highly successful farm manager is rare. Managerial ability is the most limiting factor in agricultural production. The size of the farm measured in capital invested is limited by the managerial ability of the farmer. So is the farm income. In every community will be found one or several farmers of unusual managerial ability, who have risen above their neighbors, cleared their farms of debt, built good homes, raised their standard of living, sent their children to high school and college, and at the same time improved their farms. These farmers meet the four requirements of a good farmer as laid down by Professor L. H. Bailey of Cornell University: (1) ability to make a full and comfortable living on the farm; (2) to rear a family carefully and well; (3) to be of good service to the community; (4) to leave the farm more productive than it was when he took it. The greatest possibilities of improvement in the economical operation of farms lie in the improvement of the managerial ability of farmers.

Management a Human Factor. Managing a farm is largely a matter of the human equation. Successful management depends upon a number of traits, the chief ones of which are: knowledge of the principles of management, ability to apply theories and to adapt one's self to new situations, capacity to profit by experience, foresight, ability to judge accurately of situations, industry, persistence, ability to use labor effectively, and ability to interpret price situations and trends and to adjust farming operations to price movements. This list of the traits of a successful farm manager may seem trite and a superfluous statement of the obvious. Nevertheless, it is highly necessary for the student of farm management and agricultural economics to recognize the significance of these individual traits and to give due weight to them in the interpretation of farm income data.

B. ECONOMIC PRINCIPLES UNDERLYING MANAGEMENT

The Manager's Problem. As already stated, the farm manager's fundamental problem is how to secure the greatest economic output for the least economic input. Profits are the residual share after the various costs of production have been paid. The secret of profits is low cost of production. To produce crops and live stock the farm manager must combine a large number of factors of production and direct their use in combination. The fine art of management consists of combining these factors of production in the most economical proportions and directing the combined enterprise so that it will give the greatest output for input. There are a few fundamental economic principles that the farm manager must recognize and use as a guide in combining and proportioning the factors of production.

The Principle of Increasing and Decreasing Productivity. One of the most fundamental principles of economics, to which the farm manager needs to pay close attention, is the principle of increasing and decreasing productivity. This principle is called the law of diminishing returns by many economists. The principle may be stated as follows: *As increasing units of one factor of production are added to fixed units of the other factors, the output per added unit of the variable factor will increase up to a certain point and then decrease.*

In all his enterprises the farm manager is confronted with the principle of increasing and decreasing productivity. The principle applies to the amount of labor, the amount of capital, the amount of fertilizer and the amount of management put into each enterprise. It applies in feeding dairy cattle, and beef cattle, and in the use of irrigation water. One of the farm manager's most important problems is to find the point of maximum returns and determine how far he should go in applying units of variable factors in farm enterprises. The most profitable points of investment on the farm can usually be discovered only by experience and experimentation.

The Principle of the Most Economical Proportions. In his farming operations the farm manager has the choice of using varying proportions of the different factors of production. He can use more or less land, more or less labor, more or less farm equipment, more or less fertilizer. However, the costs of these different factors of production vary from time to time and from place to place. It is more economical to use more units of one factor in one place than another, or at one time than another. As Professor H. C. Taylor has said, "At any given time and place there is a certain proportion in which the factors combine most profitably." It is the task of the farm manager to discover the most profitable combination of the different factors of production for his different enterprises.

As the cost of any one factor of production increases, while the cost of the other factors remain the same, it will be more profitable to use less of the factor whose cost is increasing and more of those factors whose cost has remained the same. The economic principle is to use as few units of the expensive factor, and as many units of the cheap factor, as possible. Where land is cheap and labor scarce, as in the United States and Canada, farmers use land lavishly and labor economically. Where land is dear and labor cheap, as in Europe and Asia, farmers use little land and much labor. As the relative prices of different factors of production change, cheap factors are substituted for expensive factors as far as possible. The principle of the most economical proportions may be stated as follows: *The factors of production in any enterprise should be so proportioned that the farm operator will receive the largest net return per dollar of total expenditures invested.*

The Principle of Comparative Advantage. In most sections farmers can produce a large number of products.

In Iowa, for instance, farmers can produce corn, hogs, dairy products, beef cattle, wheat, oats, wool, apples, berries, lettuce, and melons. Farmers in Tennessee and Georgia can produce practically every one of these products, and so can the farmers of Nebraska and North Dakota. But it is a well known fact that the farmers of these different areas do not try to produce all these different products. Production tends to become specialized in the different geographical areas. Almost every area has advantages over other areas for producing certain kinds of products. The principle of comparative advantage in agricultural production may be stated as follows: *In each area farmers tend to produce those products which will yield them the highest return for their labor, management and investment.* The successful farm operator must select the type of farming that fits in with the principle of comparative advantage.

The Principle of Recurring Efficiency. In agricultural production the same units of different factors of production are combined repeatedly with an approximation to the greatest efficiency.[5] In the cotton states an efficient combination of the different factors of production is generally a man and his family, 15 to 20 acres of land, and one mule. These units of labor, land, and equipment are combined, so that each is employed at its highest efficiency in the combination. If another mule were added without another unit of both labor and land (a man and his family and 20 acres) the mules would be idle much of the time and not contribute to the enterprise to their full capacity. However, if another unit of labor equal to that of a man and his family and another unit of land of 20 acres were also added, then the most effective combination of labor, land, and equipment would recur. The principle of recurring efficiency may be stated as follows: *In combining units of the different factors of production combinations of the units recur which cause each factor to contribute to the total output in its highest capacity.* In organizing his farming operations and enterprises the farm manager should follow the principle of recurring efficiency, so that each factor will contribute in its full capacity to the total output. Unless this is done there will be an economic waste in connection with one or more factors.

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[5] Spillman, *Farm Management*, pp. 309-312.

The Principle of Combining Factors of Varying Quality. Farmers, land, labor, and equipment vary in quality. The question arises, What is the proper combination of factors that vary in quality? Should A grade farmers, farm A grade land, with A grade labor and A grade equipment? Should C grade farmers, C grade land, C grade labor, and C grade equipment be associated in production? Is it economically wise for A grade farmers to work B grade land with C grade labor and equipment? Professor H. C. Taylor takes the view "that the factors which possess high efficiency should usually be associated together. The high efficiency land should be occupied by the high efficiency farmer operating high efficiency equipment."[6] Without question a pure-bred dairy herd of high producing capacity should be kept on good land, that will supply the best pasture, milked and cared for by the best labor, and managed by the most efficient operator. Only in such combination will the herd produce to its fullest capacity. In the case of high priced land near a city, high skilled labor and efficient management may be required to make a farm enterprise pay good re-

[6] Taylor, *Outlines of Agricultural Economics,* pp. 140-148.

turns. On the other hand there are cases when high grade management and high grade equipment are most profitably combined with low grade land, as in the sand-hills of the Carolinas where very poor land in the hands of high grade managers has been made to yield a large output. Under conditions as they have existed in the United States up to the present time there seems to have been no pronounced tendency towards a combination of productive factors of similar grades. Taylor's theory sets forth an ideal rather than explains an actual practice.

C. Farm Management Practice

Selecting a Farm. The first task of a farm manager is the selection of a farm. Most men who enter farming in the United States have grown up on farms. By the time these men are ready to assume management of a farm, they have rather definite ideas as to the kind of farming they wish to engage in, and the kind of farm they would like to operate. If they like the farming region in which they have grown up, and the type of farming that can be profitably carried on in that region, there are some advantages for them in remaining in that region, if they can secure farms suitable to their needs. Having grown up in the region, they are already acquainted with the farming practices in the region. They know the methods of growing the different kinds of crops. They have had opportunities to observe the practices of the most successful farmers in the community. If the young man desires to follow a type of farming that cannot be carried on profitably in the region in which he grew up, then it is necessary for him to migrate to another region where conditions are favorable for the type of farming that he would like to pursue. Movements of the kind are taking place among farmers all the time in the United States, though not on a large scale. As long as there was free or cheap land in the United States, thousands of men moved on to the frontier every year and selected farms in new regions, in which farming practices were necessarily very different from the practices that they were accustomed to in their home communities. In selecting a farm in any region the farm manager has to consider his own qualifications for carrying on different types of farming, the amount of capital that he has to invest, the size of enterprise that he can manage, the available labor supply (if hired labor is to be employed), market facilities, and roads to market. Most farmers are also concerned about such social factors as neighborhood life, school, church, mail facilities, and opportunities for recreation.

Owning or Renting. The farm manager must decide whether he will own or rent a farm. Most farmers prefer to own their farms eventually. But there are important economic factors that must be considered from the managerial point of view, particularly by the young farmer, in regard to owning or renting a farm. If the farmer has a limited amount of capital, he will perhaps do better to invest all his capital in equipment and rent land. Returns on equipment are much higher than the returns on land. By renting land and investing all available capital in equipment, the farm manager is enabled to operate a larger farm. The larger farm incomes are made on the large farms.

Farming as a tenant will give the manager an opportunity to decide on the size of farm which he can advantageously manage. As the young farmer operating as a tenant farmer accumulates wealth and begins to have a yearly surplus, then he may well consider purchasing a farm. Even though his investment in a farm may pay relatively low returns as compared with his investment in equipment, he will gain certain satisfaction from the ownership of his own farm. He will have a permanent home, will reap the benefits of his efforts in improving the farm, will be unrestrained in the management of his farm, will have a means of investing his surplus funds, will receive returns from the land as an investment, and will receive the increments from the rise in land values.

Types of Farming. Farming can be classified by types from several different points of view. Taking diversity as a basis, we may have diversified, semi-diversified, specialized, and semi-specialized farming. From the standpoint of the source of income, we may have wheat farming, corn farming, corn-hog farming, cotton farming, fruit farming, live stock farming, dairy farming, poultry farming, hay farming, and various types based on combinations of the different crops and animals. Again, farming may be intensive or extensive; it may be exploitive or conservative, depending on how soil fertility is maintained; it may be small-scale or large-scale.

Many factors enter into the determination of the type of farming to be followed by any farm manager. Among the most important factors are climate, soil, topography, transportation facilities, markets, competing crops and animals, amount of capital possessed, labor supply and cost, price of land, and special preferences and qualifications of the farm manager. Since the economic factors are changing most of the time, it is necessary for the farm manager to look to adjusting the type of farming he will follow to the changing economic situation. Indeed, one of the most difficult problems of the farm manager is the selection of the type of farming that is best adjusted to the economic conditions of the time and the region in which he is farming. But difficult though this selection of the right type of farming is, it is one of the most essential and skilled functions of the farm manager.

Diversified versus Specialized Farming. Factors largely beyond the control of the individual farm manager, such as soil, climate, transportation facilities, markets, prices of farm product, and labor supply, set limits to the amount of diversification that it is profitable for the manager to practice on his farm. Both diversified and specialized farming have advantages. The farm manager must weigh the economic advantages and disadvantages of each type and establish his farm enterprises accordingly. Diversified or semi-diversified farming will be most profitable in some communities, and particularly for some farmers. Specialized or semi-specialized farming will be most profitable in other communities, and especially for some farmers.

Some of the advantages of diversified farming are: (1) it makes possible a fuller employment throughout the year of the various factors of production such as labor, land, and equipment; (2) it reduces the manager's risks by having several sources of income; (3) it makes possible the rotation of crops and the keeping of live stock, which help maintain soil fertility; (4) it permits a more elastic and adaptable combination of different kinds of land, labor, and equipment on many farms. On the other hand, outstanding advantages of specialized farming are: (1) it enables the farm manager to grow the kind of crops or animals best adapted to his particular region; (2) it permits the manager to concentrate his energies on a single enterprise and become proficient in the management of that enterprise; (3) it makes management easier and permits the manager to operate on a larger scale, because the farming processes can be reduced to a routine which laborers can follow. The task of the farm manager is to weigh these advantages and disadvantages of diversified or specialized farming as they apply to his own particular locality and farm, and then to adopt the type which promises to be the most profitable in the long run.

Selection of Enterprises. In almost every region it is possible for farmers to engage in several different farm enterprises. Usually several different kinds of crops can be grown. Different live stock enterprises can be carried out. These various enterprises of crops and live stock may be competitive, supplementary, or complementary. They are competitive when they compete for labor and management at the same time, as do small grain enterprises of wheat, oats, rye, and barley. They are supplementary when they do not demand labor and management at the same time and permit work in one enterprise to follow work in another, as corn and oats, or corn and wheat. They are complementary when one enterprise is helpful for the success of another, as legumes in any crop rotation, or live stock on a farm where there is a considerable amount of roughage, and where soil fertility needs to be increased. In the selection of enterprises the farm manager should select them, so that there is a minimum of competition in the demand they make for labor and management, and so that they supplement and complement one another most effectively. If this principle is followed labor and management will be most advantageously employed and enterprises will be made to yield the best returns.

The Farm Layout. Farm buildings, roads, and fields can be arranged and laid out, so that time and energy are saved in farm work and management. It is a function of the farm manager to secure the most convenient and economical farm layout possible. If farm buildings are centrally located with reference to fields, the least amount of time will be required for labor and teams going to and from the fields. It is economical to have fields of such size and shape that they can be plowed, cultivated, and the crops on them harvested, with a minimum amount of sharp turning of teams and tractors. Fields should be well rounded out, so that there is a minimum of nooks and projections to interfere with working them. Roads should be constructed so that they cover as little cultivable land as possible and so that all fields can be reached readily.

Knowledge of Markets. In commercial farming it is highly necessary that the farm manager know something of the demand and possible prices of the products he is raising for both the domestic and the world markets. Unless he knows the leading facts about the markets in which his products are sold he cannot adjust his production to the conditions of the market. Farmers who produce cotton, wheat, wool, beef, pork, rice, apples, and dairy products, the prices of which are determined largely or partially in world markets, must necessarily know something of the supply and demand of these products in competing foreign countries. It is an impossible task for a farm manager himself to try to assemble the necessary information concerning the various world markets and the possible prices of the products he is producing. But by following the government reports and the marketing news of his agricultural paper, he can keep in touch with price trends. The farm manager can also inform himself on some of the underlying principles of marketing and on the structure of the present marketing system. An outstanding advantage in marketing through a large cooperative association is in getting essential and reliable marketing information from the officials of the association, who have the time and facilities to gather this information.

Keeping Farm Accounts. An essential feature of successful farm management is the keeping of farm accounts. Farming is a complex business. On the average farm several enterprises are in progress during the same year. It is impossible for the farmer to organize his farm for the most profitable enterprises unless he knows something of the operating costs for each type of enterprise. No other modern business tries to run without keeping a system of accounts. Most businesses use elaborate systems of cost accounting in order that they may know the various costs of production. It cannot be expected that the average farmer, or that very many farmers, will keep an elaborate system of farm accounts. However, the United States Department of Agriculture and the various state Colleges of Agriculture have worked out relatively simple systems of farm bookkeeping that any farmer can use. They have published and distributed bulletins explaining how to make financial analyses of the farm business and how to keep accounts. Many of the Colleges are assisting farmers in keeping accounts. Keeping of farm accounts is essential for the most successful farm management practices.

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CHAPTER XIII

MARKETING AGRICULTURAL PRODUCTS

A. THE FARM MARKETING SYSTEM

Marketing Defined. Marketing takes place because of specialization and division of labor, because people produce what they do not consume and consume what they do not produce. Marketing is an exchange process for mutual advantage. Men want *what* they want, *where* they want it, *when* they want it.

Farmers produce a surplus of corn, or wheat, or cotton, or hogs, or dairy products, because they know that other people who do not produce these products will pay a price for them. Economists speak of the different kinds of utility (usefulness) that an economic good may have, e.g., material utility, place utility, time utility, and form utility. The function of marketing is to give time, place, and form utility to products.[1] Under the present farm marketing system cream is gathered up from Minnesota farms, manufactured into butter, put into convenient packages, held in storage till wanted, shipped and transported to eastern cities, and distributed among consumers in such amounts as are desired. Most farm products now run the gamut of half a dozen to a dozen middlemen on their way from the farm to the ultimate consumer. At each step in the marketing process some kind of utility is added to the products. Marketing may be regarded as a part of production, because of the time, place, and form utilities that are added to the products as they pass through the hands of different middlemen. Professor Macklin has defined marketing as the "creating of place, form, time, and possession utilities."

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[1] Macklin, *Efficient Marketing for Agriculture*, p. 28.

The Market. The term, "the market," which is so commonly used in marketing vernacular should be clearly understood. Professor Hibbard has defined the market as "the sphere within which price-making forces act."[2] We may think of the market for a single commodity, as the hog market; or the market for several related commodities, as the grain market; or the market for all farm products. The market for any single commodity consists of all the sellers, buyers, middlemen, and agencies connected with the marketing of that particular product. The market for agricultural products comprises all the buyers and sellers of farm products. The market for some products is local, whereas the market for other products is national, or international in scope. The wheat market is international. Surplus quantities of wheat are produced in a number of different, widely scattered countries and are exported to countries that do not produce as much wheat as they consume. The chief surplus producing countries are the United States, Canada, Australia, Argentine, India, South Africa, Roumania, and Russia. The large deficit wheat area is western Europe, and Liverpool, England, is the largest distributing center of surplus wheat. The price-making sphere for wheat is the world. Wheat prices the world over are based primarily on the Liverpool price of wheat.

Evolution of the Marketing System. The present marketing system can be best understood by tracing briefly its evolution. As an example we may take the evolution of the marketing of poultry and poultry products. In the early history of our country when the urban population was small and consisted of people living in villages, towns, and small cities, farmers took their poultry and poultry products to the small local markets and sold them to the stores or directly to the city consumers. The market for these products was local. As larger cities began to develop and transportation facilities grew, a greater demand for poultry and poultry products was created and a larger market developed. In the towns and villages of the rural areas a group of local buyers of poultry and poultry products came into existence, who bought these products from farmers and shipped them to the larger city markets. The local buyers were merchants and other dealers, who made a specialty of buying local products and shipping them to the large city markets.

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[2] Hibbard, *Marketing Agricultural Products,* p. 13.

In the large city markets another class of middlemen came into existence, consisting of commission merchants, wholesalers, jobbers, brokers, and auctioneers, who received small shipments from the many local buyers in the small towns and villages, assembled these small shipments, and redistributed them to retail merchants in the cities. Since the demand for poultry products is rather constant throughout the year, while the supply varies greatly with the seasons, it became necessary for a considerable amount of the products coming to the market in the flush season to be stored and held till the slack season of production arrived. Warehousemen and cold storage men came into existence.

The marketing of practically every chief farm product has had a similar development. Beginning as a small local market there has been a development towards a larger market. An increase in the number of middlemen, more specialization among middlemen, growth of specialized marketing agencies for the different kinds of products, and an increasing complexity of the marketing system have characterized the development.

Marketing Agents and Agencies. The present farm marketing system is very complex and consists of a large number of different kinds of agents and agencies. The chief kinds of agents and agencies are local buyers, shippers, commission men, wholesale receivers, jobbers, brokers, scalpers, retailers, municipal markets, produce exchanges, auction markets, farmers' marketing organizations, and storage warehouses. *Local buyers* purchase from farmers and ship to the larger centers. *Shippers* specialize in buying in one market to ship to another market where prices are higher. *Commission men* operate in the larger markets, receiving products shipped to them on consignment and selling them to retailers or wholesalers on a commission. *Wholesale receivers* operate in the large centers, assembling many small lots shipped from local markets, and redistributing the products to retailers and other middlemen. *Jobbers* usually purchase from wholesalers and sell to retailers, restaurant keepers, and hotels. *Brokers* are simply agents who handle products in large amounts on a small commission for their principals—owners of the products. *Scalpers* are middlemen who buy and sell to other middlemen in the same market, taking advantage of price differences between different middlemen. *Retailers* consist of local merchants, peddlers, and hucksters, who buy from wholesalers, jobbers, and commission men and sell directly to consumers. *Municipal markets* are markets provided in cities where farmers and other sellers can sell their products directly to consumers. *Produce exchanges* are organizations of wholesale middlemen dealing in special staple products, which organizations afford a central market for wholesale buyers and sellers of farm products. The operation of produce exchanges will be explained in detail in a following section of this chapter. *Auction markets* are markets in which certain products are sold by the auction method to the highest bidders. Much of the tobacco in the South is sold in auction warehouses. Large quantities of fruits are sold in the big cities by auction. *Farmers' marketing organizations* have had a rapid development in the last decade. These organizations sell chiefly to wholesalers. They will be described in detail in the next chapter. *Storage warehouses* have become a necessary adjunct for the marketing of many farm products. Warehousemen usually do not buy or sell products, but simply furnish storage for dealers.

Methods of Sale. Farm products are sold by a number of different methods.[8] Some products in some localities are sold *directly* by farmers to consumers. A considerable amount of farm products is sold *on consignment.* The products are shipped to commission merchants, who sell the products and remit to the shippers after commission charges have been deducted. A common method of sale is *f.o.b.,* "free on board," by which method the seller delivers the products free on board cars, and the purchaser pays a price for the products to the seller at the shipping point, either on the day of sale or the day of arrival at the point of destination, the buyer assuming ownership of the products when they begin to move and paying the freight on them. Other slightly different methods of sale are *on track* sales, in which case the price paid by the buyer is the price for the product on track at the shipping point on the day of the sale; *delivered* sales, in which the price paid is the price at destination on the day of arrival, the freight and other charges being paid by the shipper; *to arrive* sales, in which the price paid is the price at destination on the day of the sale, the shipper paying freight and other charges. Again there is sale *by sample,* in which case the seller sends a small portion of the product to be examined by the buyer before he makes purchase; sale *by inspection,* in which case the products are inspected by duly authorized inspectors for the benefit of buyers; and sale *by grade,* in which case products are sold as standardized grades known and recognized by both seller and buyer.

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[8] Weld, *The Marketing of Farm Products,* Ch. III.

Conditions Making Marketing Necessary. The present farm marketing system has grown out of several fundamental conditions in modern economic life.[4] (1) Great distances intervene between producers and consumers. The demand for many different kinds of products, the growing specialization in their production and improved means of transportation have increased the distances between producers and consumers. These distances must be spanned by various middlemen, marketing agencies, and marketing services. (2) The fact that most farm products are harvested and sold within a few months, while there is a twelve-months demand for them by consumers, makes it necessary for some one to store and finance the holding of a considerable part of these products. (3) The production by many farmers of different kinds and qualities of the same product, while consumers demand standardized commodities, makes it necessary that some one sort and grade the products that go to the market. (4) The demand of consumers for goods in convenient forms and packages makes it necessary for some one to process and package many of the farm products that are marketed. Out of these basic conditions of our modern economy has developed a marketing system, which must perform a number of distinct marketing services.

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[4] Hobson, "Fundamentals of Cooperative Marketing," *Jr. Farm Economics,* Jan., 1921.

Marketing Services. The different steps in the marketing of farm products may be regarded as a series of services.[5] The marketing of some products requires more services than others. These services may be performed by producers or middlemen. The chief marketing services are assembling, grading, packaging, processing, transporting, storing, financing, selling, and distributing.

(1) Assembling of farm products is made necessary because of the small amounts raised for the market by each producer. Assembling provides an adequate variety of the products marketed, permits orders of an economical size, reduces freight expenses and operating costs.

(2) Grading enables consumers to purchase what they want, saves expenses of marketing by culling out worthless products, helps producers get a better price for their products, makes marketing by description possible, enlarges the market for any given product, and facilitates the financing of products that must be held in storage.

(3) Packaging facilitates the handling of products, reduces freight costs, saves storage costs, prevents shrinkage and spoilage of products, and enables consumers to make purchases in convenient units.

(4) Processing converts raw products into usable

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[5] Macklin, *Efficient Marketing for Agriculture*, pp. 28-29.

finished products, reduces bulk for shipment, and conserves surpluses.

(5) Transporting is an essential service under present conditions of specialization and the division of labor. Products must travel long distances between producers and consumers.

(6) Storing preserves products, adjusts supply to consumers' needs, and stabilizes market operations and prices.

(7) Financing is essential to help producers and middlemen hold and market products advantageously.

(8) Selling has for its aim the disposal of products at profitable prices. It may consist of a series of steps, such as organizing and placing in the field professional salesmen, seeking the best markets, advertising, informing and educating consumers concerning the advantages of using a particular product.

(9) Distributing is an essential service for getting different kinds of products into those places where they are needed, when they are needed, and in such quantities as they are needed.

Marketing Costs. Each one of the marketing services just described entails a cost that is ultimately paid by the consumer. It has often been said that farmers receive only 35 per cent of the price paid by consumers for farm products. This figure is perhaps too low when all farm products are considered. For some products farmers get less than 35 per cent of the price paid by consumers; for others they get considerably more. For farm products properly weighted, farmers probably receive between 50 and 60 per cent of the price paid by consumers. The spread between the prices received by farmers and the prices paid by consumers is the cost of the various marketing services.

Marketing costs vary widely for different farm products. A number of factors affect these costs.[6] *High perishability* makes marketing costly. *Waste* and *shrinkage* have a similar effect. *Irregularity of supply* entails high marketing costs. *Large volume* reduces marketing costs. *Adaptability* of products to *subdivision* and *grading* makes the marketing of them cheaper. *Heavy bulk* in relation to *intrinsic value* makes marketing expensive. Necessity of *packaging* increases marketing costs. The *distance* that products are shipped affects the cost of marketing.

Such studies as have been made show that farmers receive about the following per cent of the prices paid by consumers for leading farm products: milk, cream, and butterfat, 40 to 45 per cent; dairy butter, 75 per cent; poultry, 45 per cent; eggs, 70 per cent; live stock, 55 per cent; grains, 70 per cent; potatoes, 50 per cent; vegetables, 30 per cent; fruits, 30 per cent.[7] Of the different middlemen, retailers make the heaviest charges for their services. It has been estimated that retailers take about 47 per cent of the spread between farmers and consumers. For Minnesota creamery butter sold in New York City it was found that the producers and different middlemen received the following per cent of the retail price paid by consumers: farmers (for butter fat), 69.4 per cent; creameries (for manufacturing), 6.9 per cent; railroads and carters, 4.2 per cent; wholesale receivers, 1.4 per cent; jobbers, 4.2 per cent; retailers, 13.9 per cent. The percentage of the final price paid by consumers for California oranges going to the different factors involved in production and marketing has been given as follows:

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[6] Weld, *The Marketing of Farm Products*, pp. 183-187.
[7] *Ibid.*, Chs. IX-X.

growers, 26.7 per cent; picking and hauling, 2.4 per cent; packing house costs, 7.4 per cent; freight and refrigeration, 20.5 per cent; growers' selling cost, 1.5 per cent; jobber's margin, 8.2 per cent; retailer's margin, 33.3 per cent. For producing, picking, and hauling, farmers received 29.1 per cent of the price paid by consumers. The total marketing cost, including packing, was 70.9 per cent. The retailer's margin was 47 per cent of the total marketing cost.

B. Farm Produce Exchanges

The Nature of Exchanges. Among the most important institutions connected with the present farm marketing system are the produce exchanges. These exchanges are associations of wholesale dealers. Their primary function is to facilitate buying and selling. The leading exchanges confine their dealings to a single commodity, or a group of closely related commodities. Exchanges now exist in large urban centers for the wholesale buying and selling of practically all the leading agricultural staples, including grain, cotton, live stock, meat, butter, eggs, hay, and various fruits. The exchanges are usually incorporated under the laws of the state in which they are located. The exchanges as corporations do not buy and sell products, but provide facilities for their members as individuals to buy and sell. Some of the outstanding exchanges in the United States are the New York Produce Exchange, the Chicago Board of Trade, the Minneapolis Chamber of Commerce, the Duluth Board of Trade, the Kansas City Board of Trade, the New Orleans Cotton Exchange, the Elgin Butter Board, the Chicago Butter and Egg Board, the New York Mercantile Exchange, and the Boston Fruit and Produce Exchange. Membership in the exchanges is limited. The market value of membership in some of the exchanges runs as high as $10,000.

Functions of Exchanges. The chief functions of the exchanges are: (1) to provide a convenient and continuous market, where wholesale buyers and sellers can meet to trade; (2) to establish rules and regulations for the transactions between buyers and sellers; (3) to fix uniform grades and standards; (4) to provide for the inspection of commodities handled; (5) to gather and place at the disposal of members information concerning the supply and demand of products handled; (6) to provide means for settling trade disputes among dealers. One who understands the present complex marketing system recognizes the need of the various services performed by the exchanges. The produce exchanges of the country dealing in the different staple commodities may be likened to great central reservoirs drawing in supplies from many surplus areas and redistributing these supplies to deficit areas. The exchanges are necessary for facilitating the marketing of the great staple agricultural commodities produced over wide areas and almost universally consumed.

Future Trading. Perhaps the most discussed and the least understood practice of exchanges is future trading, often called "speculation" by farmers. Future trading is making a contract to buy or sell at a stipulated price, the delivery of the product to take place at a specified time in the future. Farmers sometimes contract beef cattle to cattle buyers six to twelve months in advance at a stipulated price. In some localities canneries contract with growers in advance for a given amount of fruit and vegetables to be delivered at a certain time for a specified price. Boxed apples of the Pacific Northwest are contracted in July to New York buyers at a given price, delivery of the apples to take place in the fall. Chain stores contract for many canned goods six and eight months in advance. Northwestern prunes and berries are sold in April for fall delivery. In some years wool buyers have contracted with growers for wool while the wool was still on the backs of sheep.

However, future trading as practiced on the organized exchange, in the great staple products—grain, cotton, rice, sugar, butter, eggs, and lard—is a much more complex transaction. Dealing in wheat futures may be taken as the best example. Wheat is bought by local elevators from thousands of farmers and shipped to the big terminal markets. It has been found most convenient in the wheat trade to make contracts for delivery in September, December, May, or July. When one buys "December" wheat, he buys wheat that will be delivered in December. The seller may deliver the wheat at any time during December. The purchaser who has contracted for December wheat can be assured that he will receive the kind and amount of wheat he contracted for.

A country elevator buying wheat in July, to be shipped to the terminal market, where the wheat will perhaps not arrive till late in August, sells wheat for delivery in December, which wheat the elevator does not intend to deliver. What the elevator really sells is a wheat future contract, and the reason for selling this future contract is to protect the elevator against a decline in price on the wheat actually bought, during the interval between purchase of the wheat at the elevator and the time it arrives at the terminal market. When the wheat bought arrives at the terminal market it is sold for the current price and a future contract is bought to cancel the future contract sold. If the wheat actually purchased by the elevator goes down between the time of purchase and the time it arrived at the terminal market the elevator loses in that transaction. But the elevator has protected itself by its future transaction. At the same time the elevator purchased the wheat, it sold futures in wheat, at a price corresponding to the price it paid for the wheat actually bought. As the price declines the elevator purchases wheat to fulfill its promise of future December delivery and receives the benefit of the difference between the price actually paid for wheat to fulfill its contract and the price at which the futures contract was sold in July. Thus while the elevator loses in one transaction it gains in another.

This futures transaction for the purpose of protection against price decline is called "hedging," which has been defined "as a purchase or sale for future delivery intended to offset and thereby to protect a transaction in actual merchandise." Hedging is based on the fact that cash prices and future prices move up and down together. At the risk of some repetition we shall give a concrete illustration of hedging in wheat. A country elevator buying wheat from farmers and selling in terminal wheat market on a small margin would run a risk of losing in the fall of prices between the time of purchase and the time the wheat reaches the terminal market. In order to avoid this loss the elevator hedges. The handling margin of the elevator is five cents a bushel. The freight rate between the elevator and terminal market is 15 cents a bushel. The price paid at the elevator on September 1 is $1.00 a bushel, and at the terminal market $1.20. The December price of wheat (the December future) at the terminal market is $1.25. On September 1 the elevator buys cash wheat from farmers at $1.00. On the same day the elevator sells a December future on the terminal market at $1.25. The elevator ships the wheat purchased to the terminal market, the wheat arrives on September 15, the price is down five cents, and the wheat is sold for cash in the terminal market for $1.15. At the time of the sale the elevator purchases a December future, at $1.20 a bushel, with which to meet the future sold on September 1. The elevator has made two transactions. In the cash transaction the elevator bought at $1.00 a bushel, had handling and transportation costs of twenty cents a bushel, and sold in the terminal market for $1.15 a bushel, thereby losing five cents a bushel. But by hedging the elevator protected itself against this loss. In its future transaction the elevator sold in September 1 at $1.25 a bushel. On the day of arrival of the wheat in the terminal market the elevator bought at $1.20 a bushel to fulfill its December futures contract. Thus in the futures transaction the elevator made a gain of five cents a bushel, which gain offset the loss on the cash transaction.

Some Terms and Practices in Future Trading. There are certain terms and practices connected with trading in futures with which the student of marketing should become familiar. "Selling short" means that a seller has sold for future delivery products which he does not own at the time of the sale. The short seller believes that the price of the product which he sells will go down between the time he makes his sale and the time that he must make delivery, so that at the time delivery is due he can purchase products to fulfill his contract at a lower price than he contracted to sell, thereby making a profit in the transaction equal to the difference between the price for which he sold and the price he must pay for products with which to meet his contract. "Buying long" is the opposite of selling short. Believing prices are going up, the long buyer purchases for future delivery. If he has guessed right, and prices go up, he makes a profit equal to the rise between the time of the contract and the time of delivery. When a large number of sellers have sold short they are anxious that prices shall drop, so they can buy at a lower price to fulfill their contracts and make a good profit. Hence the short sellers try to make the market appear weak, so that the price will be depressed. Because they try to tear down the price, they are called "bears." On the other hand, those who have products to sell are anxious that prices shall rise, so they can sell at an advanced price. They use their influence to make the market appear strong. Because they attempt to lift the price they are called "bulls."

Functions of Speculation. Speculation in farm products on the organized exchanges has been almost universally condemned by farmers. However, under proper control and regulation, speculation on the organized exchanges has distinct advantages for farmers. Speculation takes place because the supply of, and the demand for, any given product are not known exactly in advance. The prices offered and accepted for farm products on the exchanges are the result of the judgments and predictions of a large number of experts as to the supply of, and the demand for, any given product. Because of uncertainties in supply and demand, some one must assume risks during the consuming period. One of the most important functions of speculation is the shifting of risks from the producers and actual merchandisers of commodities to a group of professional risk-takers. The speculators are specialists in risk-taking. They have access to facts of supply and demand that are not available for farmers. Again, speculation helps maintain a steady price level throughout the year. Most products come on the market during a few months or weeks, but are consumed throughout the year. Speculative prices are the combined estimates of experts as to future prices. These future prices are based on a careful analysis of the size of the crop, supplies on hand, rate of consumption, and effect of prices on consumption. Finally, speculation helps adjust prices between different markets and regulates the flow of commodities from producing to consuming areas and centers. If differences in prices develop the activities of speculators offering and purchasing the products in several articulated markets tend to bring about a single price.

Objections to, and Defense of, Future Trading.[8] There has been a general belief among farmers that they somehow lose by speculation and future trading. Numerous bills have been advocated by farmers, farm papers, and farm organizations for the abolition or regulation of future trading. (1) Perhaps the strongest objection voiced by farmers and the farm press against future trading is that "short" selling depresses prices. The contention is that much "short" selling of fictitious supplies that do not exist, but which give the appearance of real supplies, hammers down the price at the time the farmers are selling. It has been claimed by cotton growers in the South that farmers lose from $5.00 to $10.00 a bale on all their cotton because of "short" selling. (2) A second charge made against future trading is that the speculators in the exchanges conspire among themselves to hold down prices during the time farmers are selling and while the speculators are buying, and to drive prices up after farmers are through selling. (3) A third objection to future trading is that it makes "squeezes" and "corners" possible, by which a few persons or even a single person get control of the main part of the supply of a product and force the price up to an extraordinarily high point. (4) A fourth objection to future trading is that it permits inexperienced persons with little knowledge of real market conditions, and with little financial backing, to enter the speculative market, artificially stimulate prices, and cause others as well as themselves to lose heavily.

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[8] Hibbard, *Marketing Agricultural Products,* Chs. XII-XIII.

As to the first objection, that "short" selling depresses prices, it should be said that for every sale there must be a purchase. If short selling depresses prices because it gives the appearance of a big supply, why do not the corresponding purchases boost prices by giving the appearance of scarcity? Again, if a "short" seller sells futures at a price below the price that actually comes to prevail, he must enter the market and purchase to make good his contracts. If he depresses the price in selling, then he stands to suffer as wheat comes back to its normal price. As to the second objection, that insiders conspire to depress the price while farmers are selling, and to boost prices when they (the speculators) are selling, it can be shown that the low price received by farmers at the time they are marketing is due to the large supplies put on the market, and that the rise in prices during following months is due to the costs of storing, insuring, and financing the holding of the products. The fluctuations in prices on the exchanges from day to day are due primarily to uncertainties among speculators as to the real supply and demand. Concerning "squeezes" and "corners" it can be said that they have been very rare. In two of the "corners" that have happened, the persons effecting the "corners" were ruined by their own acts. Now all the exchanges have strict rules against "corners." The United States Supreme Court has declared them illegal acts in restraint of trade. The Grain Futures Act of 1923 gave the Federal Government supervision over future trading in grain. The fourth objection, that unfit and inexperienced speculators may enter the market, is perhaps the most valid objection. The remedy for this evil is to keep novices out of the exchanges. Lately the exchanges have been making great efforts to do this.

C. MARKETING PROBLEMS

Marketing Problems. Many farmers and others interested in agriculture look upon marketing as the farmer's big unsolved problem. The marketing problem has many different aspects. There are special problems connected with the marketing of each type of commodity. The outstanding marketing problems are raised in a series of questions. (1) Do farmers receive too little of the price paid by consumers for farm products? (2) Does the large number of middlemen engaged in marketing farm products work to the financial disadvantage of the farmer? (3) Is the price of farm products fixed by the "other fellow," leaving the farmer helpless in the bargaining process? (4) Should the government be called upon to fix the price of farm products, so that farmers will get a price equal to cost of production, plus a reasonable profit? (5) Are there other ways in which government can come to the aid of farmers in helping them solve their marketing problems? (6) What can farmers do themselves to improve the marketing system?

These are the questions most frequently raised in connection with farm marketing.

The Price the Farmer Receives. The most common indictment of the farm marketing system is that farmers receive too little of the price paid by consumers for farm products, only about 35 per cent according to the statement of many writers and farm organizations. As evidence that this is too small a percentage, it is pointed out that in European countries farmers get 50 to 60 per cent of the price paid by consumers for farm products. Those who make the indictment that the farmer receives too little of the price paid by the consumer should look to the reasons for the low price received by the farmer and the much higher price paid by the consumer. The consumer is the starting point in price making. Middlemen buy and sell farm products because consumers demand them. Middlemen cannot arbitrarily set high prices and force consumers to pay high prices. In almost all cases there is competition among middlemen, that tends to keep prices down. If the prices of any one commodity become too high, consumers substitute one product for another, as far as possible. There is a possible substitute for almost any commodity today. The possibilities of substitution tend to keep prices down. To a very large extent it lies with the consumer what price he will pay for any commodity. Middlemen are in the marketing business to make profits. They buy products as cheaply as they can and sell them at the price that will yield them the greatest net profit. They are anxious to sell as much of any product as they can at a profitable margin. If there is a brisk demand among consumers for a commodity and consumers will pay a high price for the commodity, middlemen bestir themselves to supply the demand. Middlemen in their efforts to supply the demand of their customers, bid for the products that farmers have to sell. If necessary, they will bid up the price paid to farmers, so long as they can handle the product at a profitable margin.

The chief difficulty with farmers in the pricing situation is that they compete with one another in great numbers in supplying the market with farm products. Middlemen pay farmers low prices for farm products because they can buy the products from many competing farmers at the low prices. If there is an abundance of a commodity and many farmers are anxious to sell, middlemen can buy all of the commodity that they can handle at a low price. If a commodity is scarce and middlemen find difficulty in supplying the demand of customers, then middlemen offer prices that will bring forth the supply demanded. Perhaps the biggest single fact that farmers as a group could profit most by learning is that the prices of farm products are determined primarily by the amounts that the farmers themselves put on the market. When farmers offer large amounts of a product for sale, prices are low. When they offer small amounts of the product for sale, prices are high. Certainly some of the conditions that determine whether farmers will offer large or small amounts of a product for sale are beyond the control of the farmer, such as weather, pests, and unexpected social disturbances. But the important fact remains, that consumers (through middlemen) will pay low prices when products are abundant, because they can get what they need at low prices; and they will pay high prices when products are scarce, because they cannot get all they want except by paying a high price. If higher prices is the objective of the farmers, then the biggest problem before them is a more effective control of the supply of the products that they have to offer for sale.

The Cost of Middlemen. As to the wide "spread" existing between farmers and consumers, it is the consumers who must pay it. The various middlemen and marketing services that have intervened between farmers and consumers have come into existence in response to the demands of consumers. These middlemen and marketing services exist because they facilitate the marketing process. Consumers have been willing to pay the price and cost that these middlemen and services entail. It is possible that there are too many middlemen handling some commodities. The remedy lies with consumers and producers. Middlemen remain in their business as long as they can make profits. If farmers can take over some of the marketing services themselves, it is possible that they can get an increased price for themselves, reduce the price paid by consumers, and eliminate some of the middlemen. The chief reasons why farmers in Europe receive a much larger percentage of the price paid by consumers than do American farmers are that they perform more of the marketing services themselves, have shorter distances to transport their products, and raise for market more of those products that can be directly marketed to consumers. The many big nearby industrial centers afford European farmers a ready market close at hand for milk, butter, eggs, fruits, and vegetables. Many European farmers take their products to the market themselves and sell directly to consumers or retailers. In many sections of Europe cooperative marketing, by which farmers take over a number of essential marketing services, has reached a very high degree of efficiency. Few farmers in the United

States can market their products directly because of long distances between farms and consumers. Even where it is possible for farmers to market directly to consumers, few of them have the time, or will take the time, or can afford, to do it. Only a small proportion of farm products are now handled by cooperative marketing organizations. It is futile to try to improve farm marketing by denouncing middlemen. They will engage in farm marketing as long as they can buy from farmers and sell to consumers and make a profit. The only way to eliminate middlemen is for consumers to demand less marketing service or for producers to take over the marketing services performed by middlemen.

Price-Fixing. Many farmers and sympathizers of farmers believe that the law of supply and demand does not work unhindered in the marketing of farm products, and that farmers do not receive just prices for their products. They point to the fact that farmers work hard and yet do not receive cost of production for their products. They contend that the farmers are the basis of the entire economic life of the country, and that because of their primary importance in the economic order, the rest of society owes them fair prices for their products. They would have the government, through some kind of a commission, guarantee farmers a price equal to cost of production plus a reasonable profit for their products. Though most of the price-fixing proposals are vague and indefinite, it seems to be assumed in these proposals that the government will make up for the farmers from its funds the difference between the price the farmers actually receive and what they ought to receive to give them a fair price.

Suppose the government did undertake to guarantee farmers cost of production plus a reasonable profit for their products, whose cost of production would be taken as the basis? Recent farm management surveys in several wheat sections show that the range among farmers in the cost of producing wheat is from seventy-five cents to $4.00 a bushel. The cost of producing corn varies from thirty cents to $2.00 a bushel. The cost of producing cotton varies from ten cents to fifty cents a pound. And so it is in the production of every farm commodity. Rarely do any two farmers have exactly the same cost. If the higher costs were taken, then price guarantees would encourage the inefficient farmers to continue production, acreages would be increased among the better farmers, the supply would be increased, and the price would be further depressed. The insuperable difficulty of any measure that raises prices of farm products among farmers is that the higher prices lead to increased production which in turn depresses prices, and therefore defeats the very aims of the price-influencing scheme.

Government Aid in Marketing. There are important ways in which governments, both state and national, can and do aid farmers in marketing. (1) The state and national governments have already done much in working out grades and standards for a large number of farm products. The grading and standardization of farm products encourages farmers to improve the quality of their products and enables them to get a better price for the products. Some of the state governments have fostered grading schools and taught farmers how to grade. (2) The state and national governments have also established shipping point inspection for many products, which has helped farmers greatly in the marketing of some products. (3) One of the most important services rendered by the state and national governments is the gathering and dissemination of market news. The United States Department of Agriculture has recently inaugurated the important service of assembling information on farmers' intentions to plant and giving farmers this information before they plant. (4) The United States Department of Commerce is helping farmers in their marketing problems by studying the demands of foreign nations for agricultural products. (5) The bureau of Agricultural Economics of the Federal Government and the Divisions of Markets of a number of the states assist farmers in the organization of cooperative marketing associations, chiefly in the way of furnishing instructions on how to organize and manage such associations. (6) Both the Federal and State Governments administer various Federal and State regulatory laws that are designed to help farmers in the marketing of their products. (7) Some state and municipal governments, through their Divisions of Markets and public markets, help farmers market their products. (8) The State and Federal Governments have helped farmers get better storage facilities by licensing warehouses. (9) Through the Federal Intermediate Credit Banks farmers have been enabled to borrow money to hold their products for better prices. In many other smaller ways the national and state governments are assisting farmers in the solution of their marketing problems.

What Farmers Can Do. Farmers must depend primarily upon themselves to solve their biggest marketing problems. While government aid assists farmers in certain respects, as pointed out in the preceding paragraph, there are several essential things to be done in improving marketing from the standpoint of farmers, that only farmers themselves can do. The three big outstanding marketing problems at the present time are: (1) improvement of the quality of products, so that consumers are pleased; (2) orderly distribution of products throughout the entire consuming period and over wide consuming areas; and (3) adjustment of production to demand. These three big marketing problems must be solved by farmers themselves. How farmers are beginning to solve these three problems will be explained in the next chapter on Cooperative Marketing.

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CHAPTER XIV

COOPERATIVE MARKETING

A. DEVELOPMENT AND TYPES OF COOPERATIVE MARKETING ORGANIZATIONS

Cooperative Marketing Defined. The most outstanding attempt of farmers to improve the marketing of farm products is to be seen in the present cooperative marketing movement. Many farmers' cooperative marketing organizations have come into existence during the last two decades. A farmers' cooperative marketing organization may be defined as an association of farmers united to sell their products as a single agency for the benefit of all members. Cooperative marketing is joint action on the part of farmers to overcome difficulties and obtain advantages in marketing that cannot be accomplished by farmers selling individually. The primary motive of farmers in organizing cooperative marketing associations is to get a better price for their products. Cooperative associations are not charitable organizations. They are strictly business concerns. Through cooperative marketing organizations farmers undertake to perform some of the essential marketing services demanded by consumers, receiving the remuneration for these services usually paid to middlemen.

Rochdale Principles of Cooperation. In 1844 there began in Rochdale, England, a consumers' cooperative movement which has grown to immense proportions, and which has furnished an example of one type of cooperative marketing for American farmers. The chief features of the Rochdale system of cooperation are: (1) capital for operating the business furnished by members taking stock in low denominations (usually \$5 to \$10), which stock can be paid in small installments; (2) limitation in the number of shares that one man can hold; (3) one man one vote, regardless of the number of shares held; (4) a nominal dividend paid on stock; (5) patronage dividends paid to members on the basis of the amount of business done with the cooperative associations; (6) handling of products at prevailing market prices, with financial advantages accruing to members in the form of stock and patronage dividends.[1] The Rochdale Consumers of England now number over 5,000,000 families, chiefly families of industrial workers. They own many local stores, large wholesale houses, factories and flour mills, tea plantations in Ceylon and India, vast wheat fields in Canada, coffee plantations in Brazil, palm and olive plantations in Africa, and many ocean-going steamers and fishing vessels.

The consumers' cooperative movement spread to the United States and there are over 2,600 such organizations in this country, about 25 per cent of which are agricultural associations.[2] In the 70's and 80's the Grange established many consumers' and producers' cooperatives, which followed the Rochdale principles of organization. The Farmers' Alliance, which had a membership of over 1,000,000 farmers around 1890, established many cooperative stores on the Rochdale plan. The Farmers' Union in the South and West and the Society of Equity in the Northwest and Middle West founded a large number of cooperative associations of one kind or another from 1900 to 1915, which operate on Rochdale principles. In the Middle West and Northwest there is still a large number of farmers' cooperative grain elevators, stores, creameries, and cheese factories organized on the Rochdale plan.

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[1] Benton, *Marketing of Farm Products,* pp. 9-11.

[2] *Ibid.,* pp. 11-14.

Danish Principles of Cooperation. While the Rochdale system of cooperation was developing rapidly in England and making some headway in the United States, the farmers of Denmark, driven to live stock farming by the competition of the new, large grain areas of the world, began to develop a different type of cooperation, which they have brought to a very high degree of efficiency.[3] Denmark has become the classic example of the world in farmers' cooperative enterprise. Over 200,000 Danish farmers now face the markets of the world as collective bodies. More than 85 per cent of all Danish farmers are members of cooperative organizations. The chief products handled cooperatively are butter, cheese, eggs, bacon, and feeds. In 1920 there were over 5,000 local cooperative organizations, doing a business of more than $300,000,000.

The chief principles of Danish cooperation are: (1) organizations of sufficient size and volume of business to make operation economical; (2) non-stock associations, operating on loans guaranteed by all members; (3) strong local associations, democratically controlled, and federation of local associations into district, provincial, and national associations; (4) contracts running from one to twenty years, between members and local and central associations, to deliver products to, or buy products from, the associations, the contracts being legally binding and enforceable at law; (5) specialization in selling or buying one or a few commodities; (6) careful grading of products, and pooling of products of similar grade and quality for sale; (7) partial payment by the association to the producer on delivery of the product or soon afterwards, and payment for balance in six to twelve months, producers getting all the returns, less expenses of handling; (8) insistence by the associations on high grade quality; (9) special commodity and general national federations of associations for education of producers and promotion of cooperative activities. The two outstanding accomplishments of cooperative marketing in Denmark have been the development of very high grade products that command high prices in foreign markets and the adjustment of farm production to consumers' demands. Students of farm marketing from all parts of the world have journeyed to Denmark to study cooperative marketing.

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[3] Christensen, "Agricultural Cooperation in Denmark," U. S. D. A. Dept. Bul. 1266.

California Fruit Growers' Exchange. In the United States the California Fruit Growers' Exchange has long been cited as a successful cooperative marketing organization.[4] The citrus fruit growers of southern California began to market their fruit cooperatively nearly thirty years ago. The present California Fruit Growers' Exchange was organized in 1905. The Exchange now handles more than 70 per cent of the citrus fruit of California. The association consists of 10,700 citrus fruit growers, organized into 206 local associations, the local associations organized into nineteen district exchanges, and the nineteen district exchanges federated into the large central exchange. Growers contract to deliver their fruit to the local association, the contract running for twenty years, but subject to cancellation at a specified time each year. The local associations are concerned chiefly with picking, packing, and loading for shipment. They are either joint-stock corporations, or non-profit, non-stock associations with a joint stock subsidiary owning the packing houses. The district exchanges select the markets and ship the fruit. Each district employs a manager, and is governed by a board of directors representing the local associations. The central exchange does the actual selling in the various markets. It has salaried agents in the large distributing centers who make sales. It manages the advertising campaigns, maintains an efficient traffic department to facilitate shipping and distribution, and employs a staff of inspectors. The central exchange, through the district exchanges, keeps the local associations advised as to the best available markets.

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[4] Cumberland, *Cooperative Marketing;* Steen, *Cooperative Marketing,* Ch. IV.

The central exchange, the district exchanges, and the local associations make charges on all fruit sold covering their actual expenses, which amount to about 5 per cent of the value of the fruit f. o. b. California. The growers receive the balance of the sale price. The local associations pool their fruit according to grade. The central exchange owns and has made famous the "Sunkist" brand. The California Fruit Growers' Exchange has enormously increased the consumption of oranges in the United States and Canada through its advertising campaigns, its even and effective distribution of oranges throughout seasons and markets, and its development of consumers' confidence in California oranges by placing high quality fruit on the market. Despite the fact that the production of California oranges has increased 1,500 per cent since 1890 there have been only a few short periods of overproduction.

Extent of Cooperative Marketing. According to a preliminary estimate made by the United States Department of Agriculture in 1928, three million members, shareholders, shippers, consignors, and patrons were credited to 11,400 active cooperative associations in the United States.[5] Estimate of membership for some of the larger groups of organization was as follows: grain marketing, 900,000 members; associations marketing dairy products, 600,000; associations shipping and marketing livestock, 450,000; associations marketing fruits and vegetables, 215,000; cotton marketing associations, 140,000; associations marketing miscellaneous products, 190,000; associations buying farm and farm home supplies, 398,000. Since a number of individuals hold membership in two or more associations, the membership figure of 3,000,000 does not mean that number of individuals was participating in the activities of the various organizations. The number of individuals in the 11,400 associations was estimated to be about 2,000,000.

Types of Cooperative Marketing. Several different types of cooperative marketing have developed in the United States, which need explanation at this point. The two distinctive types are the *federated* association and the *centralized* association. There are, in addition, modified types of these two types. In the federated association the growers are joined together in local organizations for certain specific purposes and exercise local control over the local associations. For other purposes the local associations are federated into central exchanges, which are controlled by the local associations. The most common functions of the central exchanges are getting market information, advertising, selling, and improving standards.

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[5] *Agricultural Cooperation,* July 21, 1928.

In the centralized type of organization all growers are joined together in a single corporation. The grower contracts directly with the association to deliver his products. The central association has supreme power over growers, the power emanating from the central association. If local associations exist they are for purposes of facilitating the work of the central association and not for controlling it.

Though a great deal of discussion has taken place over the relative merits of these two types of organization, it cannot be said in truth at the present time that one type is superior to the other. Both types have been attended by successes and failures. Both types have advantages and disadvantages. While the federated associations have usually had a more gradual growth, are more adaptable to differing local conditions, and are under more effective control of growers, they may not be as efficient as centralized associations in pooling, securing uniform products, and merchandising. While the centralized types may be more efficient in pooling, grading, and merchandising, they often antagonize growers and cause dissatisfaction and withdrawals, because of their autocratic methods.

From another point of view cooperatives may be either stock or non-stock organizations, or profit or non-profit organizations. In the stock-profit organizations members subscribe stock and receive dividends on their stock. In the non-stock, non-profit organizations, there is no capital stock subscribed and therefore no dividends paid on stock. In the non-stock associations whatever capital is needed is obtained by charging fees or by borrowing. Where warehouses are needed funds are obtained for their purchase or erection by forming subsidiary corporations that raise the capital.

B. PRINCIPLES OF COOPERATIVE MARKETING

The Discovery of Principles. Cooperative Marketing has been in existence long enough in the United States and Europe for students of the movement to ascertain some of the principles and practices that make for success. While many associations are still in the experimental stage, a sufficient number have been in operation long enough to demonstrate the conditions of success. The causes of failures have become pretty well known and pitfalls may be anticipated and avoided. These principles or conditions of success should become the common knowledge of students of cooperative marketing and managers of cooperative organizations. Some of the leading conditions of success are explained in the following paragraphs.[6]

Must Grow Out of Real Need. There is no magic in cooperative marketing. To be successful cooperative marketing must grow out of real needs for the improvement of marketing. If the old marketing system in any community or for any commodity is giving good results for farmers, it is very doubtful if farmers will gain anything by trying to substitute cooperative marketing for the old system. In the marketing of some commodities the old marketing system has been developed by sharp competition to a high degree of efficiency. Before cooperative marketing is attempted for any commodity a careful study should be made to determine whether the old marketing system is efficient and whether there is a real need for cooperative marketing.

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[6] For principles of successful cooperative marketing see, Jesness, *The Cooperative Marketing of Farm Products,* Ch. XIV; Mears and Tobriner, *Principles and Practices of Cooperative Marketing,* Ch. II; Macklin, *Efficient Marketing in Agriculture,* Ch. XIII; Benton, *Marketing of Farm Products,* Ch. XX.

Sufficient Volume of Business. Large scale business is most economical in marketing. Since cooperative marketing consists chiefly of farmers performing essential marketing functions through their agents and agencies, at certain costs, it is necessary for cooperative associations to have a volume of business sufficiently large to keep the cost of marketing per unit of product low. Many cooperative organizations in the United States have failed, primarily because they have tried to operate with too small a volume of business. Their overhead costs have been too high. They were deserted by farmers because the latter could not get prices equal to those paid outside the organization by individual buyers. The farmer's chief concern in a cooperative marketing organization is the price that he receives for his product.

Efficient Business Management. Farmers as individuals know or can know very little about the technique of cooperative marketing. They are primarily specialists in production. Busy as they are with their farm work, they cannot become specialists in marketing. In their cooperative marketing organizations farmers must depend chiefly on efficient managers to make their cooperative endeavors successful. The work of an efficient manager of a farmers' cooperative association must necessarily include many things. The manager must see that grading, assembling, and packaging are properly done; that products are harvested at the right time; that products are properly advertised; that contracts are made with the right selling agencies; that the various departments of the association perform their functions efficiently and are closely articulated; that products are shipped to the right markets at the right time; that price changes are carefully anticipated; that returns are made to farmers promptly; that growers are advised as to possible future prices; and, above all, that growers are properly educated and kept pleased. For performing all these functions rare managerial ability is required. High salaries must often be paid to secure managers with the requisite ability. But high salaries paid to good managers are usually economical in the long run.

Wise Price Policies. Cooperative marketing organizations, in their price policies, must attempt to deal wisely and fairly with the public. In a locality or a section where a cooperative association has control of a major part of the supply of a product, like milk in a big city, there is sometimes a temptation for the producers to try to secure an unreasonably high price. If the cooperative milk producers near a big city put their prices too high they are likely to get into several difficulties. They may be indicted for conspiracy in restraint of trade under an anti-monopoly law. The charging of an unduly high price may cause milk producers from more distant markets to begin shipping milk into the city and cut the price. Again, the high price may cause members of the cooperative association to increase their production and bring about a surplus problem for the association.

Cooperative associations operating on a national scale and controlling a major part of the output of a commodity are also faced with difficult price problems. The California Associated Raisin Company (now known as the Sun-Maid Raisin Growers) found itself in serious difficulty a few years ago because of attempts to get too high a price for its products. It was investigated by the Federal Trade Commission, which reported that the company had fixed the price of raisins in 1919 "in excess of a fair and reasonable price." The case was taken to court and a decree was issued enjoining and restraining the company from doing certain things that enhanced the price of raisins. This case is significant because it shows that cooperative associations are liable to prosecution if they undertake to charge unfair prices for products, of which they have a monopoly. The Associated Raisin Company also became financially embarrassed because of the very large surpluses that it accumulated during several years. It did not let the supply for each year go on the market at such prices as would move the whole crop. High prices also stimulated greater production among growers. The company found an increasing surplus to dispose of each year.

In shaping price policies cooperative associations must recognize the legal and economic complications that follow attempts to set prices too high. The making of wise price policies is perhaps the biggest problem of the big cooperative associations today that control a large part of the supply of a commodity.

Enlightened Growers' Control. Since cooperative marketing organizations belong to growers they must ultimately be controlled by growers. The principle of democracy, "one man one vote," has long been urged as one of the most essential features of genuine cooperative marketing. It is contended that the small grower has just as much at stake so far as his economic welfare is concerned as the large grower. Most of the cooperative associations in the United States are organized on the principle of one man one vote. However, there are many successful cooperatives that use different bases for voting, such as number of cows, number of acres of trees, or number of shares of stock held. When differential voting is allowed there is usually an upper limit set to the number of votes that one producer has.

More important than the form of growers' control is the quality of control. Cooperative marketing is strictly a business proposition, and business intelligence is required of those who formulate marketing policies and execute them. It is impossible for farmers to become experts in marketing. They can not be expected to know all the details and the various techniques of marketing. Yet it is necessary for growers to be enlightened about some of the more general principles of marketing and about the special problems of their associations. Growers cannot exercise their power of control over their associations wisely, unless they are well informed about the problems, policies, and activities of the associations. When growers do not understand what is going on in their associations and what difficulties managers and directors are facing in marketing products, they are likely to demand more in the way of returns than is possible and to become dissatisfied with their associations. Managers and directors of cooperative associations today recognize that the education and enlightenment of growers is one of the most essential activities of the associations.

Adequate Funds. In the early days of cooperative marketing in the United States, it was thought that cooperatives needed little capital. But it has been learned from experience that capital and loan funds are very essential for the marketing of some products. Cooperative associations marketing cheese and butter need considerable capital for initial outlay in buildings and equipment. In the marketing of grain, elevators and warehouses are needed. In the marketing of great staple products like grain, cotton, and tobacco, large sums of money are needed to make payments to farmers at time of delivery of the product. Farmers raising these crops usually have financial obligations to meet at the time their crops are delivered. They cannot wait for payment till the cooperatives have sold all the products. Perhaps the biggest problem that the cooperatives marketing staple products have had to meet and solve has been the problem of financing growers. It is necessary for such cooperatives to borrow large sums of money to advance to growers. The Intermediate Credit Banks have proved a great help to cooperative marketing associations in loaning them funds to make advances to farmers. Warehouses owned and controlled by the cooperatives are highly essential for the successful marketing of tobacco, cotton, and grain.

Pooling. Years of cooperative marketing experience have taught growers the necessity of pooling products for sale. By pooling is meant the lumping together of all similar grades of products, furnished by individual growers, to be sold as a single unit. Each grower's product is mingled with like products of other growers and loses its identity. In organizations that handle products that are easily standardized, such as vegetables, fruit, cotton, tobacco, grain, eggs, and butter, pooling is easily accomplished. In live stock shipping associations, however, pooling is not very practicable because of great variations in individual animals and lots of animals, and therefore the practice of individual shipments is usually followed. In the marketing of products that can be graded and standardized, pooling has a number of advantages. Risks can be distributed evenly and widely among growers. The associations can exercise a greater control over the supply of the product and merchandise the product according to market demands. More uniform prices are obtained and paid to growers, and therefore growers are kept better satisfied with their associations.

C. Possibilities and Limitations of Cooperative Marketing[7]

Need of Understanding Limitations and Possibilities. So much has been said and written about cooperative marketing during the last few years, so many exaggerated claims have been put forth by its advocates, and so much controversy has been waged over its actual accomplishments and what farmers may gain from joining cooperative associations, that it will be well in closing this chapter to point out some of the possibilities and limitations of cooperative marketing. In the United States cooperative organizations have been in existence sufficiently long to demonstrate about what farmers may expect to accomplish by joining them. Farmers, students, and promoters of cooperative marketing should know these possibilities and limitations. By understanding just what cooperative associations can do and what they cannot do, farmers and others will be enabled to concentrate their efforts on practicable phases of cooperation and save themselves many disillusionments, disappointments, and waste of energy and money.

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[7] See Erdman, "Possibilities and Limitations of Cooperative Marketing," Cal. Sta. Cir., 298; Boyle, *Marketing of Agricultural Products,* Chs. XXVI and XXVII.

Limitations. Long years of experience with cooperative marketing organizations have shown that there are certain things that cooperatives cannot do.

(1) Cannot arbitrarily fix prices. Very few cooperatives have a monopoly on the products they are handling. The products of these cooperatives must be sold in competition with products marketed by individual farmers and middlemen, or by other cooperatives. Many of the staple products like wheat, cotton, tobacco, and meat, have to be sold on a world market and must be sold in competition with producers from many parts of the world. Where cooperatives have monopoly control of the supply of a product, they cannot set prices too high, else consumers will find a substitute, or the cooperatives will be indicted for restraint of trade, or the members of the cooperatives stimulated by high prices will produce too much and cause a glut in the market.

(2) Cannot eliminate middlemen. In our specialized economy there are certain channels through which products must pass on their way from producer to consumer, and there are certain marketing services or functions that must be performed. The persons engaged in distributing products through these channels and in performing these services have been called middlemen. Cooperatives cannot eliminate these marketing services or the middlemen that perform them. What the cooperatives can do, however, is to take over some of these essential marketing functions, such as grading, packaging, storing, financing, and selling, and employ persons under their control to perform these functions. The cooperatives simply substitute middlemen under their control for other middlemen. On the other hand there are some marketing functions that most cooperatives have not found practicable to take over,

such as auction selling, wholesaling to retailers, and retailing to consumers. Wholesale buyers and sellers of staple products in the big terminal markets are very efficient and most cooperatives have found it advantageous to sell to these wholesalers and let them sell to retailers. The most successful cooperatives in the United States sell to wholesalers, and do not attempt to perform all marketing functions between producers and consumers.

(3) Cannot guarantee farmers cost of production plus a profit. The cost of producing farm products varies widely from section to section, from community to community and from farm to farm. In the Palouse country of Washington and Idaho it was found that the cost of producing wheat on different farms varied from 80 cents to $4.00 a bushel. In New Hampshire an extensive survey among dairy herds showed that half of the cows did not make a net profit. The cost of production on any farm is largely determined by the managerial ability of the operator. We saw in our chapter on farm management that managerial ability is the most variable and most sharply limited factor in agricultural production. The cooperative associations cannot manage farms and oversee production, and hence they cannot secure uniform costs of production. Efficient farm managers should not be penalized by inefficient managers through a price guarantee of cost of production plus a reasonable profit for every farmer. Furthermore, the cooperatives can only pay farmers such a price for their products as is determined by the demand and the supply of the market. The cooperatives have no control over the supply produced by individual farmers, either in the cooperatives or outside, and hence cannot control the price that products bring on the market. If farmers produce such quantities of a

product as to oversupply the market and force the price below cost of production, that is a situation which the cooperatives cannot remedy.

(4) Cooperatives cannot eliminate speculation. Speculation is due primarily to uncertainties of supply and demand. Cooperatives can have little or no control over those factors that cause uncertainties in supply and demand. Under the individual, private middleman marketing system the uncertainties and risks are taken care of by the various middlemen and by the professional speculators. Under this system farmers have disposed of their products immediately after harvesting, and left the risk taking to others. The only change that cooperatives can effect is to shift more of the risks to farmers themselves by having the cooperatives hold, store, and finance products for a longer period than was possible for individual farmers. Only to the extent that cooperatives can predict and eliminate uncertainties of supply and demand can they lessen speculation.

(5) Cannot greatly reduce marketing costs. The private, middleman marketing system is highly competitive. Inefficient buyers and sellers are rapidly eliminated. Efficient competitors have cut margins of handling products to a minimum in the marketing of most products. Particularly has the cost of marketing the more durable and easily standardized staple products been reduced to a low margin among private buyers and sellers. Only by employing the most skilled and efficient managers can cooperatives further reduce the costs of marketing, and then usually only slight reductions, if any at all, can be made in the costs of marketing the staple products.

(6) Inherent weaknesses in cooperative marketing. In addition to the five limitations just explained there seem

to be certain inherent weaknesses in cooperative marketing that set further limits to success. (a) It is often very difficult for managers and boards of directors on the one hand, and all members of cooperative organizations on the other, to develop the same point of view and to see and understand alike the problems of their associations. Managers become so engrossed in the selling affairs of the association that they easily lose contact with the point of view of the growers, while the grower members are so busily engaged in the operation of their individual farms that they give little thought to the problems of the association. Managers make unreasonable demands of growers and growers vote impossible tasks for managers. (b) Many growers fail to keep themselves informed about the essential matters of the association, fail to attend important meetings, and fail to vote. (c) Managers and directors sometimes become extravagant, pay too high salaries and purchase expensive equipment, and get the associations in debt. (d) In some associations managers and directors have failed to be frank with growers, have kept back important facts from growers, only to have the associations later disrupted by the outraged feelings of growers. (e) Some nonmembers selling through private marketing agencies get higher prices for their products than do members selling through associations, due to one or several reasons, e.g., private buyers may be handling several different products, they may be paying premium prices for special grades, they may be buying such grades as entail no risk in handling, or they have no advertising costs. Members of associations not understanding the causes of these higher prices paid to nonmembers by private dealers, become dissatisfied with their association, try to withdraw from it and break their contracts. (f) Members of cooperatives, persuaded to join the latter by extravagant promises of promoters, have a tendency to expect too much in the way of enhanced prices from their associations during the first few years of operation.

Possibilities of Cooperative Marketing. Many years of experience with cooperative marketing in the United States and other countries have clearly shown certain definite gains and possibilities in cooperative marketing.

(1) Improvement of quality and saleability of products. Perhaps the greatest gains to farmers through cooperative marketing come from improvement of the quality and saleability of products. Consumers demand high grade products. One of the chief causes why farmers have received such a small percentage of the price paid by consumers for farm products has been the poor quality of products put on the market by farmers. Farmers have left it to middlemen to do most of the grading, assembling, packaging, and storing of farm products. The dumping of many different ungraded lots of products on the markets causes a great waste and a heavy loss to middlemen. The individual farmer, unless he is a very large producer, cannot economically perform a number of the functions necessary to give his products the quality demanded by consumers. Cooperative associations handling large quantities of a product can economically perform the services of grading, packaging, and storing, which are necessary for putting high quality products on the market. The cooperatives can also do much to improve the quality of marketable products by educating growers to produce better and more uniform types of products, and to deliver higher quality products to the associations.

(2) Control flow of products to market. The large cooperatives and federations of cooperatives can partly

control the flow of products to market, and can prevent some of the dumping of products on the market immediately after harvest and during seasons of surplus production. Such control of products going to market may result in gains to farmers by giving them a steadier and more uniform price. Storage facilities are required to enable cooperatives to accomplish orderly marketing. However, since private middlemen have always engaged in storing and holding farm products and have effected orderly marketing among themselves, it must not be assumed that cooperatives can make great gains for farmers in taking over these functions.

(3) Can extend some markets. Cooperatives can extend the market for some products. The California Fruit Growers' Exchange, the Raisin Growers, the Walnut Growers and other cooperatives have greatly increased their sales at times by advertising, by increasing their sales force, by inducing retailers to sell their products, and by entering new markets. By effective and persistent advertising consumers can be persuaded to increase their consumption of a product. However, it must always be kept in mind that when consumers begin to use more of one product than formerly, they also cut down their consumption of some other product. The greatest gains through extension of markets can be secured with new or not widely consumed products. Little in market extension can be expected for the great staple products, because they are already being widely consumed.

(4) Strengthens bargaining power in some cases. A cooperative organization, with a large amount of a product for sale and with a well informed and resourceful sales manager, is in a much better bargaining position than a large number of individual farmers selling in competition

with one another. Large cooperative organizations furnishing a considerable part of the milk supply of cities have time and again demonstrated their ability to influence the price of milk. How much a cooperative association can strengthen the bargaining power of producers depends on how much outside competition there is. While a cooperative milk association, furnishing milk to a city and with few outside competitors, may raise the price of milk, a wheat association, handling only a small percentage of the wheat produced and selling in competition with the wheat producers of the world, will have little or no increased bargaining power over individual producers.

(5) Eliminate trade abuses and secure trade and transportation advantages. By united action through cooperatives producers are enabled to eliminate trade abuses and market discriminations, to secure trade advantages by being able to furnish large lots of uniform commodities to buyers, to get storage facilities and advances of money on favorable terms, and to get better railroad and refrigeration services. Large cooperatives can also bring pressure on state and national legislatures and administrators for legislation and rulings favorable to the interests of growers.

(6) May control the supply produced. It is possible that cooperatives handling certain commodities may in the future wield some influence over the amounts farmers produce, and in that way help to control the price of these commodities. Where cooperatives are marketing the major part of a commodity that is produced for the domestic market, it may be possible for these cooperatives through a careful study of market demands, education and publicity, a highly developed loyalty of members to their cooperatives, and an effective system of news distribution,

to get producers to keep their production down to such a volume as will bring profitable prices. To do these things will be no easy task. But as farmers become better educated concerning the relation of the supply of commodities to prices, it is possible that cooperatives may accomplish some control over supply and prices.

The Future of Cooperative Marketing. The future of cooperative marketing is very promising. Many cooperative undertakings fail, but it is doubtful if there is a larger percentage of failures among cooperatives than among other types of business enterprises. No doubt selfish promoters will still continue to inveigle farmers into organizing cooperatives when the economic conditions are not favorable for success, and such ill-founded cooperatives will fail. What is needed most at the present time is a better understanding by farmers and farm leaders of the economic conditions and principles upon which sound cooperative undertakings must be based. The possibilities and limitations of cooperative marketing need to be more clearly understood. Farmers need to be on the alert so that they are not swept off their feet by professional, spell-binding, cooperative promoters, with their extravagant claims and high organization fees. These professional promoters are the greatest enemies of sound cooperative marketing. In the place of professional promoters there is needed well-trained leaders who have the interests of farmers at heart. The agricultural colleges, other higher educational institutions, state and national governmental agencies, and cooperative associations are educating many young men in marketing principles and training them in the technique of cooperative marketing. Without question cooperative marketing will be extended in some degree to practically all farm products.

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CHAPTER XV

FOREIGN MARKETS

A. THE ECONOMICS OF FOREIGN TRADE

Agricultural Products in Foreign Trade. A large number of the farmers of the United States must depend on foreign markets for the sale of a part of their products. Generally there is exported from the United States 50 to 60 per cent of the cotton crop, 35 to 40 per cent of the tobacco crop, 20 to 25 per cent of the wheat crop, and 12 to 15 per cent of the pork and lard produced. In addition to these major agricultural exports there are many minor exports. The chief agricultural products imported into the United States are silk, sugar, coffee, wool, oilseed and oilseed products, hides and skins, tobacco, and various fruits and vegetables. Table 13 shows the value of the leading agricultural exports and imports for the United States for the year 1925.

Farmers have a vital interest in the international trade in agricultural products. The prices of those products, a part of which is exported, are determined largely or entirely by the foreign market. Some of the imported agricultural products influence the price of home-grown products. More than ever before the farmers of the United States produce and sell in a world economy. Improved means of transportation and communication have encouraged the growth of specialization in the production of agricultural products in all parts of the world, and a great exchange of agricultural products between nations. Important questions of tariffs and free trade are bound up with foreign trade. It is necessary that the student of agricultural economics know the essential, economic principles of foreign trade.

TABLE 13. VALUE OF LEADING AGRICULTURAL EXPORTS AND IMPORTS FOR THE UNITED STATES, 1925

(*Agricultural Yearbook*, 1926, p. 1174)

Article	*Exports*	*Imports*
Cotton, unmanufactured	$1,060,980,000	$50,640,000
Grain and grain products	536,427,000	25,198,000
Meats and meat products	273,207,000	7,159,000
Dairy products	25,633,000	30,531,000
Eggs and egg products	8,734,000	6,846,000
Hides and skins, raw (except fur)	10,662,000	92,678,000
Wool and mohair, unmanufactured	133,000	124,164,000
Fruits	85,313,000	48,383,000
Oilseeds and oilseed products	27,790,000	131,800,000
Sugar, molasses, and syrups	23,616,000	293,885,000
Tobacco, unmanufactured	131,535,000	78,657,000
Vegetables	17,810,000	33,676,000
Coffee	8,285,000	267,154,000
Total farm products (not all included in list above)	$2,280,381,000	$1,818,578,000

The Economic Basis of Foreign Trade. In the specialized economy of the modern world it is most economically advantageous for the people of a nation to produce those products for which their climate, soil, other natural resources, geographical position, transportation facilities, and skill in labor and industrial management are best fitted; and to exchange these products most advantageously produced for products that can be produced with least advantage in the home country. Almost every country has a greater advantage in producing some products than other products. Because of the various factors mentioned above, some commodities can be produced more cheaply than others. The people of different countries find it profitable to specialize in the production of those things in which they have the greatest advantage, and the least disadvantage. These factors of comparative advantage and disadvantage give rise to foreign trade. The foreign trade existing between the prairie provinces of Canada and England may be cited. In the prairie provinces of Canada there is an abundance of land well adapted to growing wheat, which can be produced cheaply. In England, land is scarce, but coal and iron, industrial technique and transportation facilities make the manufacture and export of finished products advantageous. Canada produces wheat cheaply but finished products dearly. England produces finished products cheaply but wheat dearly. The two countries find it mutually advantageous to exchange their products.

Comparison of Foreign and Domestic Trade. Fundamentally foreign trade and domestic trade are alike. Just as different sections within a country find it mutually advantageous to specialize in the production of some commodities and to exchange those commodities for other commodities, so nations find it mutually advantageous to specialize in the production of some commodities and to exchange them for commodities more economically produced in other countries. Foreign trade, like domestic trade, is carried on by individuals and corporations seeking profits. The merchants and traders of one country buy and sell goods in any country, regardless of nationality. The merchants and transportation companies of one country may do most of their business in buying and selling the products of other countries.

However, there are certain differences between foreign and domestic trade.[1] (1) Transactions in foreign trade involve the use of two or more monetary units, whereas in domestic trade only one monetary unit is used. This use of several monetary units often causes complications, particularly when there is a change of value of the monetary unit in one or several countries. (2) Foreign trade in most countries is obstructed by such barriers as tariffs, different languages and customs, and commercial laws and regulations, whereas domestic trade is relatively free from these obstructions. (3) The goods produced by different countries for foreign trade are produced in more or less closed or non-competing compartments, whereas goods for domestic trade are produced by operators who are in competition with one another for labor and capital. Restrictive immigration laws, and the immobility of labor, land, raw materials, and, to a certain extent, capital, place the producers of goods of different countries out of competition with one another, in large measure, so far as production is concerned. Within the same country the producers of similar commodities and of different commodities are in competition with one another for labor, capital, and other factors of production.

The Trade Balance and the Equation of Indebtedness. One of the most essential facts for the student to grasp in the study of foreign trade is that foreign trade is simply the exchange of the goods and services of the people of one country for the goods and services of the people of another country. The imports of a country pay for its exports. A country cannot sell to foreign countries unless it buys from foreign countries. Over a long period of time the sums owed to a country are equal to the sums owed by it. Thus every nation engaged in foreign trade develops an equation of indebtedness. The value of imports must equal the value of exports. Many persons have the idea that the goal of a nation engaged in foreign trade is to get a large supply of money—gold, which is the international medium of exchange. But this idea is a mistaken one. Gold is a medium of exchange. Gold, as money, is valuable because it can be used to buy goods. The real goal of the people of any nation is a large supply of goods that satisfy wants, that furnish the necessities, comforts, and luxuries of life. In its final analysis then, foreign trade is simply barter between nations, the exchange of some kinds of commodities for other kinds of commodities.

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[1] Griffin, *Principles of Foreign Trade*, pp. 9-12.

Factors in the Equation of Indebtedness. In the foreign trade of a country, imports must always balance exports. Why then do we hear so much about our "favorable" balance of trade, our excess of exports over imports? The excess of exports over imports is apparent, not real. The trade balance contains other items than material commodities. While the value of our export material goods for a long time exceeded the value of our import material goods, we were remitting to European peoples large sums in the way of interest on loans, repayment of loans, ocean freight payments, insurance payments, remittances of recent immigrants to their European relatives, salaries and commissions of foreign agents handling our goods, and expenses of our people traveling in Europe. These factors or services for which we make payment are the so-called "invisible" imports and enter into the equation of indebtedness just the same as the material commodities. They are just as essential to us as the more visible factors.

Foreign Exchange. International trade is conducted on a price basis. Gold is fundamentally the international medium of exchange. The ratio value of the monetary units of different countries to one another is determined by the amount of gold contained in the units. However, individual purchasers of foreign goods cannot make payment to sellers in the monetary units of their own country. American importers cannot pay for French goods in dollars. When international payments are made in gold, bullion and not coins are used. But because of the expense of shipping gold from one country to another, and because payments for foreign goods can be made more effectively by bills of exchange, these latter monetary instruments have come to be the chief means of making international payments.

A bill of exchange is an order by one party on another to pay the first party or a third party a certain amount of money. It is similar to a draft or a check. Just as checks and drafts circulate as media of exchange for the payment of debts within a country, so bills of exchange circulate as a medium of exchange for the payment of international debts. Suppose that A, a New York exporter, has shipped $50,000 worth of cotton to X, a London importer. If A wants payment in gold for the cotton, he can have the gold shipped to him by paying freight and insurance on it. But suppose that after shipping the cotton, A meets B, a New York importer, who wants to purchase $50,000 worth of woolens from Y, a London exporter. If B were to make remittance in gold to Y, he would have to pay in addition to $50,000 in gold, freight and insurance charges on the gold. However, if A will give B an order, instructing A's debtor, X, to pay $50,000 to B's creditor, Y, then B can pay A the $50,000 that B owes Y. By this process of "orders to pay" the two debts are extinguished without gold being shipped. These "orders to pay" are bills of exchange.

However, there are thousands of exchanges taking place between exporters and importers of the United States and England. The case cited above is oversimple and in reality domestic exporters and importers do not meet and make settlement in the way indicated. Specialized banks have developed to handle the bills of exchange for exporters and importers. American exporters shipping goods to European merchants draw bills of exchange on these merchants and take them to the banks and have them cashed, paying a discount on them. European exporters shipping goods to the United States do the same thing with banks in their countries handling foreign exchange. The bills of exchange drawn by foreign exporters become the media of exchange for foreign obligations. Persons owing debts abroad purchase bills of exchange with which to make payments. Hence, there is always a demand for bills of exchange, with which to meet foreign obligations. Bills of exchange sell at their face value when the demand for them is equal to the supply of them. If the demand for them exceeds the supply, then they sell for more than their face value. If the supply exceeds the demand they sell for less than their face value. The supply of, and the demand for, bills of exchange depend on the volume of business and payments between countries. If the exports, visible and invisible, of a country to another country tend to outstrip the imports, visible and invisible, then exchange on the foreign country will be below par.

B. Agriculture and Foreign Markets

Significance of Foreign Trade and Exchange in Agricultural Economy. As outlined above it is seen that foreign markets and exchange have an important relation to the economic welfare of those farmers in the United States who produce commodities, a part of which must be sold in foreign markets. Even though only 5 or 10 per cent of a product is sold in foreign markets it is the price of this small amount exported that determines the price of the entire product, because domestic producers will not pay more for the product than it will command on the international market. Since exports must be paid for by imports, either visible or invisible, the producers of agricultural export commodities must necessarily be interested in questions and policies relative to the regulation and restriction of imports. The farmers of the United States, with large surpluses of products to sell, cannot expect the peoples of foreign countries to purchase these products, if they (the foreign peoples) are not allowed to send goods or render services of some kind in exchange for the products. The European peoples cannot buy agricultural products unless they can export manufactured products, raw materials, or other classes of agricultural products.

Again the farmers in the United States raising surplus products that must be sold in foreign markets cannot fail to be interested in the economic, political, and financial stability of the European peoples. Unless the industries in Europe are in operation, European peoples cannot buy. Unless the currency systems of the different countries are stable, exports cannot be sent to those countries. Economic and financial stability depends partly on political order and stability. The problem of foreign markets for the surplus farm products of the United States is closely tied up with such factors in Europe as stable governments, sound currencies, operation of industries, ability to market manufactured goods, the wages and standard of living of the industrial workers, war debts, war indemnities, and taxation. Few farmers in the United States raising exportable products realize how much their own economic welfare is influenced by the economic and political conditions in Europe.

Distribution of Agricultural Products. Europe has always been the greatest consumer of farm exports from the United States. Around 80 per cent of our farm exports go to Europe, the five-year average from 1910 to 1914 being practically 84 per cent and the three-year average from 1920 to 1922 being 76 per cent. From 1910 to 1914 the per cent going to other continents was: North America, 10.2 per cent; Asia, 3.4 per cent; South America, 1.2 per cent; Oceania, 0.7 per cent; Africa, 0.4 per cent. But in 1922 there had been somewhat of a change in the proportions, only 76 per cent going to Europe and 13.8 per cent to North America, 7.0 per cent to Asia, 1.1 per cent to South America. Before the War agricultural products constituted 65 per cent of all exports to Europe and in the three-year period 1920-22 the average was 67 per cent.[2] Western Europe to which the bulk of our agricultural exports go is preeminently a manufacturing region, demanding food and raw products. This thickly populated region, with a relatively high standard of living and high purchasing power, will continue to be the chief market for American agricultural exports for a long time. Because of the importance of Western Europe as an im-

[2] *Trade Information Bulletin* 177, Dept. of Commerce.

porter of American agricultural products, and the dependence of American agriculture on this market, it is important that we try to forecast the possible trends of this market.

The Development of the European Market. In considering the European market as an outlet for our agricultural products, it should always be kept in mind that the expansion of our agriculture took place in conjunction with the development of the Industrial Revolution in Europe. As the nations of Western Europe became industrialized and their populations increased, a demand was created for food and raw products that was partly supplied by the farms of the United States.[3] During the colonial period Great Britain encouraged the importation of such agricultural products as tobacco, rice, and cotton, which could not be produced in that country, but discouraged the importation of cereals and meats by placing high tariff duties on them. But after 1800 Britain became more and more a manufacturing country and her urban population increased rapidly. By the middle of the nineteenth century import duties on cereals, meats, and other food products were withdrawn. The importation of food products began to be encouraged to meet the demands of the new industrial population. The rapid expansion of American agriculture and the development of cheap railroad and ocean transportation enabled Britain to go ahead with her industrialization and import food and raw products.

Later as Belgium, Holland, Germany, France, and Switzerland became industrialized, they also became markets for American agricultural products. Because of the rapid growth of manufacturing industries in Europe from 1870 to 1913, a disparity developed between agricultural and manufactured products. In the European markets agricultural products commanded larger and larger amounts of manufactured products, because of the growing abundance of manufactured products. At first, as railroads, ocean-going steamers, labor-saving devices, and farm machinery were perfected, and as the colonization of new countries developed, European agriculture was greatly depressed, not being able to withstand the severe competition of the new agricultural areas. The United States, along with Canada, Australia, Argentine, and South Africa, became the granary of Western Europe.

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[3] Nourse, *American Agriculture and the European Market,* Chs. I and II.

However, as the northeastern part of the United States became industrialized our agricultural surplus was reduced. From 1890 to 1914 the prices of agricultural products rose in the United States. After 1900 the European countries, finding agricultural products becoming higher and higher, resumed the policy of encouraging domestic agriculture. By 1914 agricultural exports from the United States to Europe had begun to decline. The United States was approaching a balance between agricultural and manufactured products. The European War, however, re-stimulated the demand for agricultural products from the United States. During the War agriculture in the United States was greatly expanded to meet the demands of the Allied nations. After 1918 the European economic structure almost collapsed. The European peoples were not able to continue taking the surplus of agricultural products raised in the United States. The contraction of European markets was one of the causes of the agricultural depression in the United States after 1920.

Post-war Markets in Europe. The Great War produced conditions in Europe that have greatly affected the market for the agricultural products of the United States. Europe, it must be remembered, is the focal point of the world's trade in agricultural products. The ability of the European peoples to purchase agricultural products is measured by their ability to produce and sell other goods. Since 1913 the population of Europe has grown more rapidly than the foreign trade. In the United Kingdom and Germany, the two biggest importers of our agricultural products prior to 1914, many industries have been operating at only 50 to 75 per cent of their prewar capacity. Large numbers of workmen have been unemployed. Capital reserves have been drawn upon to make payments for necessary imports. The War debts have placed heavy burdens of taxation upon all the European peoples that participated in the War, and these tax burdens have further decreased purchasing power.

For a long time depreciating and fluctuating currencies made commercial activities, and particularly foreign commerce, extremely precarious. Such economic conditions caused a great decrease in the productive power, and consequently the purchasing power, of the peoples of Northwestern Europe, who before the War were the consumers of more than 80 per cent of the agricultural exports of the United States. The exports and the imports of these countries decreased. The farmers of the United States, with an increased surplus to market after the War, felt the repercussion of the reduced purchasing power of European peoples more than any other class.

International Debts and Foreign Trade. Another important factor that will eventually have an effect upon the export of agricultural products of the United States to Europe is payment of international debts. In 1926 the public indebtedness of European countries to the government and private investors of the United States was more than $20,000,000,000 and the annual payments of interest and principal over $700,000,000.[4]

The payment of international debts of this kind reduces the purchasing power of the debtor countries, because a part of the yearly national income of these countries must go into taxes for the payment of the debts. Domestic purchasing power in the debtor countries is reduced. Since people produce more than they can purchase (the difference going to pay these foreign debts), prices tend to be low. The debtor countries, therefore, become good markets in which to buy, but poor markets in which to sell. Exports increase and imports decrease. So the payment of the debts owed to the government and private investors of the United States tends to have an adverse effect upon the farmers of the United States, who have a surplus of products that must be marketed in Europe.

Up to 1927 the European peoples owing us have kept up their payments on their debts and purchased agricultural products in part by borrowing money from us. But this borrowing cannot go on indefinitely. Soon the borrowing nations will have to begin paying off their indebtedness to us in goods. But these payments in goods will not represent a demand for our agricultural and other products, but will be payments on their debts. Our exports will be curtailed when the foreign nations cease borrowing funds with which to buy. Only in case these debt-paying nations greatly increase their productivity, and we increase our imports and exports with these countries, and therefore the volume of foreign trade with them, can this more serious disturbance to our exports from debt payments be avoided. If the people of the United States are willing to accept more goods from Europe, and the volume of our foreign trade with Europe, both imports and exports, is greatly increased, then the adverse effects of the payment of the debts will not be so keenly felt by farmers who have surplus products to export.

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[4] Patterson, "Repercussion upon International Commerce of Reduced Purchasing Power," *Academy of Political Science*, Vol. XII, No. 3.

Stabilizing Effects of Foreign Markets. The greatest and most stable industrial organizations of the world today are those that have world markets. In the United States, those industrial enterprises that are selling their goods in the world markets—the producers of telephone and cable equipment, steel, oil, electric apparatus, and automobiles—are least affected by fluctuations in prices and are steadiest in dividend payments.[5] Modern transportation and communication facilities have made foreign trade and world markets economically advantageous for all countries that have favorable conditions for the production of some products and unfavorable conditions for the production of other products. A world demand or a world supply is more apt to be steady than a national demand or a national supply. Foreign markets absorb the fluctuating annual surpluses that would otherwise have a very depressing effect upon domestic prices. Foreign markets for our agricultural products, and particularly for those products of which we have a surplus, might well be developed and expanded for the stabilizing effect they have on the prices of agricultural products in the United States.

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[5] Cutter, "Foreign Consuming Power and American Business Expansion," *Academy of Political Science*, Vol. XII, No. 3.

Expanding Wants Abroad. In most parts of the world, population is increasing, standards of living are rising, productive and consumptive powers of peoples are growing, and new markets are developing. All these factors help create a demand for economic goods. Enterprises engaged in manufacturing and trading have often become prosperous by seizing the opportunities for developing new markets under these conditions. The big industrial enterprises of the United States and other nations, having met the domestic needs for their products, are making a drive for new foreign markets. The farmers of the United States who are producing surplus products will do well to give their best thought and efforts to the possibilities of new foreign markets.

Many questions arise as to how farmers may better avail themselves of foreign markets for their surplus products. In the expansion of their foreign trade there is the greatest need for farmers to group themselves into large cooperative marketing organizations, so that they may secure the best marketing experts to help them in developing foreign markets. The farmers of Denmark, as pointed out in Chapter XIV, have made themselves prosperous by developing their foreign markets for butter and bacon, through federated cooperative marketing organizations. Foreign markets for surplus agricultural products are a new field of endeavor for cooperative farm organization in the United States.

Relation of Increasing Imports to Exports. The people of the United States, including farmers, because of their rising standard of living and expansion of manufactures, are demanding larger and larger quantities of certain imported products, such as rubber, wool, chemicals, nitrates, silk, flax, hemp, jute, potash, nickel, tin, manganese, vegetable oils, tea, cocoa, sugar, spices, coffee, and tropical fruits and nuts. They are dependent upon foreign countries for these products. The demand for these products will increase in the future. Some of these products cannot be produced in the United States and others only under disadvantageous conditions. Importation of these products is essential for the industrial progress of the people of the United States. These imports must be paid for by exports. Since the farmers of the United States can produce certain agricultural products most advantageously, there should be profit in producing a surplus of these products to help pay for our increasing imports. It is not necessary that exchange of agricultural products be made directly with those countries shipping us products. Trade can be three-cornered. Tropical countries producing raw products can have them shipped directly to the United States, receiving in exchange for them European manufactured products, and the United States can make payment by exports to the European countries. Much international trade is of this kind. Again, the United States may develop trade in some agricultural products directly with the countries sending us raw products.

Increasing Agricultural Productivity and Foreign Markets. With the increasing use of farm machinery and power and scientific methods of production the farmers of the United States are confronted with a growing surplus problem. It is very doubtful whether domestic demands will increase as fast as the supply of farm products during the next three or four decades. Scientific instruction in agriculture, through state and national governments, demonstration extension agents, high schools, and colleges, is just now beginning to make itself felt in agricultural production. The yields per acre of practically all leading agricultural products in the United States are increasing. Tractors, engines, trucks, and automobiles are supplanting horses and mules that formerly consumed vast quantities of agricultural products. Many acres of land are being released every year for the production of products for human consumption. Improved farm machinery is helping increase the output per worker on farms. In the face of these new factors making for increased agricultural output in the United States, one of our leading agricultural economists has made rather gloomy predictions as to the outlook for agricultural prosperity in the United States. In view of these forebodings, farmers of the United States may look more seriously to foreign markets for the sale of increasing surpluses. Entrance into foreign markets is the practice followed by other industrial enterprises when they find their output outstripping domestic demands. There is no reason why farmers cannot follow the same method.

New Markets in Asia. It is possible that eastern Asia may become an important market for agricultural exports from the United States. China, Japan, and India are among the most densely populated countries of the world. At the present time the productive capacity, the purchasing power, and the standard of living of these Asiatic peoples are relatively low. Nevertheless these people are now waking up. They are beginning to make industrial progress. They promise to become great industrial peoples like the peoples of western Europe. The industrial progress of Japan during the last fifty years has been phenomenal. The productive ability and the purchasing power of the Japanese people are rapidly increasing. The Japanese demand for imported food products and raw products is increasing. Only 15 per cent of the land of Japan is arable, and the Japanese people need to import large quantities of food products to take care of their increasing industrial population. In China there are vast undeveloped resources of iron, coal, and technical skill, the essentials of a great industrial civilization. At the present time the Chinese people practice intensive agriculture and household industry, and their productive capacity and purchasing power are relatively low. But many of the Chinese people have unusual manual skill, industry, and intellectual ability, and we may expect them to develop great industries in China. There are already 7,000 miles of railroads in China. Millions of dollars of foreign capital are being invested in China. There are many favorable conditions in China for the development of textile manufactures. Close about China and Japan, in French Indo-China, Siam, Further India, East India, and Oceania, is a vast population of more than 100,000,000 people who will furnish a good market for the manufactured products of China and Japan. There is little question but that Japan and China are destined to become important manufacturing countries and important markets for agricultural products. These countries will no doubt become an important outlet for the agricultural products of the United States.

Competing Agricultural Countries. In growing agricultural products for foreign markets, however, competing agricultural countries should not be overlooked by the farmers of the United States. In the market of northwestern Europe our agricultural products have to meet the competition of five other regions:[6] the Prairie Provinces of Canada, the River Platte region of South America, Russia, Northwest India, and Australia and

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[6] *Trade Information Bulletin* 177, Dept. of Commerce, pp. 31-42.

New Zealand. Before the War Russia rivaled the United States for first place in the export of wheat to northwestern Europe, averaging for the years from 1909 to 1913, 162,000,000 bushels as against 100,000,000 from the United States. Though Russia has exported little wheat to northwestern Europe since the War, there is no doubt that she will come back into the European market. Russia has two advantages in producing wheat, large areas of fertile soil and closeness to the export market. On the other hand she is somewhat handicapped by inefficient farming methods, poor transportation, and political uncertainty.

Canada is the most important wheat competitor of the United States today in the foreign markets. Canada has vast prairie lands well adapted to wheat production and a small population to feed. Canada exports from 200,000,000 to 350,000,000 bushels of wheat a year. The three prairie provinces of Canada have vast areas still uncropped, perhaps 200,000,000 acres, that can be brought into wheat production. Only 7 per cent of the total arable land is cropped now, whereas 33 per cent of the total area is arable. Only about one-sixth of the potential wheat land of the Prairie Provinces is now being utilized for growing wheat. These Provinces will undoubtedly expand their wheat production in the future. Canada also exports considerable quantities of pork, hams, bacon, cheese, condensed milk, fresh fruits, and berries, which compete with our agricultural products in the European markets.

Argentina and the other countries of the Platte region of South America are the next most important competitors of the United States in the European market. In 1922 Argentina exported 138,000,000 bushels of wheat, 112,-

000,000 bushels of corn, 54,000,000 bushels of flax-seed, and 8,000,000 pounds of beef and beef products. The soil of Argentina is fertile and the land is level. It is estimated that wheat can be grown on ten times the present area producing wheat. Part of this land can also be used for producing corn. Conditions are also very favorable for cattle raising and dairying. Rail and ocean transportation conditions are favorable. Because of a dearth of fuel Argentina will most likely remain an agricultural country. We may expect Argentina to become one of our strongest competitors in the overseas markets.

Australia's and New Zealand's chief exports are wheat, flour, wool, and dairy products. In 1922 Australia exported to the world markets 100,000,000 bushels of wheat from a harvest of 132,000,000 bushels, also 124,000,000 pounds of fresh and frozen beef, 33,000,000 pounds of condensed milk, and 97,000,000 pounds of fruits. New Zealand has become a big exporter of dairy products. Australia and New Zealand suffer somewhat from the great distance to the European market. But both of these countries have small populations, high agricultural production per capita, and they will continue to export large quantities of wheat, beef, and dairy products that will compete with our exports.

British India exports wheat only in years when there is a good domestic crop of millet, rice, barley, and wheat. India also exports around 3,000,000 bales of cotton annually. However her cotton is of the short lint variety and goes to China and Japan and does not compete with our cotton shipped to Europe. India does not threaten to become a serious competitor of the United States in the markets of Europe.

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CHAPTER XVI

AGRICULTURE AND THE TARIFF

A. Nature and Types of Tariffs

Agriculture and the Tariff. The farmers of the United States have always been much interested in the tariff, either as affecting the price of agricultural products or the price of products that farmers must buy. The tariff has been one of the most mooted issues in American politics. Party alignments and sectional alignments have grown out of tariff issues. No other single economic and political issue has persisted so long in party platforms. Farmers themselves have been greatly divided on the tariff. The farmers of some sections have favored low tariffs or no tariffs at all, either on agricultural products or on manufactured products. The farmers of other sections have favored high tariffs on both agricultural and manufactured products. And despite the long, voluminous discussion of the tariff among farmers, there is perhaps no public economic problem so little understood. Many impossible claims have been made by the partisans of both high tariffs and low tariffs. Few farmers really understand just how tariffs on different kinds of products affect the prices of those products. Above everything else in the tariff controversy, farmers need enlightenment on the economic effects of tariffs. They need to know how tariffs affect the price of the products they sell and also the price of the products they must buy.

The Nature of Tariffs and Bounties. A tariff is a tax levied on goods brought into a country. A tariff may be a specific tax, so much for each unit of goods imported; or it may be an ad valorem tax, a percentage of the value of the imported product; or it may be both specific and ad valorem. An illustration of a specific tax would be 35c a bushel on wheat; of an ad valorem tax, 20 per cent on the value of flour; of a specific and ad valorem tax, 5c a pound on cheese plus 25 per cent of the value. The objects of a tariff may be to secure revenue, or to protect and build up home industries, or both. Tariffs always produce conflicts of interest between different groups because the interests of the groups are affected differently by the tariffs. In the United States tariffs on imports can be levied only by the Federal Government.

A bounty is a payment by the government to the producers of a commodity of a specific sum per unit of the commodity produced. The object of a bounty is to aid domestic producers of a commodity by paying them something additional to the market price they receive for their commodity. Bounties may be paid to encourage the domestic production of a commodity considered essential for the public welfare of a country. Bounties differ from tariffs in that they do not attempt to restrict foreign imports by setting up high duties. However, the effect of a bounty may be to keep out foreign imports, because they cannot be sold in competition with domestic products on which producers are paid a bounty.

Effective and Non-effective Tariffs. So far as they influence prices of products, tariffs are effective or non-effective. Only when there is less of a commodity produced in a country than is consumed, and all or a part of the amount consumed is imported, is a tariff effective in raising the price for producers. Wool and sugar are examples of agricultural products that are effectively protected by tariffs, though not nearly to the extent that has been claimed by advocates of the tariff on these commodities. But the United States does produce less of these products than is needed for home consumption and a tariff on these products helps raise the price for domestic producers. On the other hand a tariff on products of which there is more than enough, or just enough, for domestic consumption is non-effective. Tariffs on wheat, short staple cotton, pork and lard are non-effective, because we export a part of the domestic supply of these products to foreign markets.

It is very essential for farmers to understand on which products tariffs are effective and non-effective. Tariffs are usually made by log-rolling and compromises, between representatives of conflicting interests. Farmers are urged to give support to protection for many kinds of commodities in exchange for support of protection for agricultural commodities. Often farmers have received "gold brick" tariffs by such bargaining, because they have given their support for effective tariffs on commodities they buy and have received in exchange a non-effective tariff on the commodities they sell. The result has been that farmers have given their support to measures which increase the prices of many of the commodities they buy and get no return at all in the way of higher prices for their products.

B. Arguments for and Against Tariffs

List of the Arguments. The arguments for and against protective tariffs are many.[1] Some of the leading arguments for protection are that: (1) it protects infant domestic industries against foreign competition; (2) it helps develop diversified industries in a country, makes the country largely self-sufficing, and enables the country to maintain itself in case of war; (3) it develops a home market for agricultural products; (4) it keeps wages high and laborers employed by keeping out imported goods produced by cheap labor; (5) it equalizes the cost of production between countries and makes foreigners pay the difference in the cost; (6) it gives a country a trade weapon for retaliating against, or bargaining with, other countries; (7) it can be used to prevent "dumping" of foreign goods in domestic markets.

Arguments against a protectionist policy are that: (1) it interferes with the most economical production and distribution of goods; (2) it increases the cost of living for consumers; (3) it favors some classes as against others, by taxing some classes for the benefit of others; (4) it leads to trusts and monopolies in protected industries; (5) it encourages inefficient management of industries and permits them to stagnate because of lack of competition; (6) it leads to international ill-will and conflict.

The Protection of Infant Industries. According to the argument for the protection of infant industries, an old country with well established industries usually has an advantage over a new country in the manufacture of products. Accumulated capital, experienced enterprisers and laborers, possession of patents, and well developed markets give the old country an advantage over the new country in manufactures. If the old country is permitted to ship its goods into the new country without any trade restrictions, manufactures in the new country cannot develop at all, or only slowly, because of the ability of the foreign country to undersell the new country. However, if the manufacturers in the new country are protected for a while by a tariff, till they are well established, they will be able to meet the competition of foreign countries. According to this view, a protective tariff assists the industrial development of a country, and even though domestic consumers have to pay higher for products for a while, eventually the domestic industries are well established, and the prices of the products protected become as cheap or cheaper than foreign products.

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[1] For excellent critical discussions of the arguments for and against tariffs see Rufener's *Principles of Economics,* Ch. XXXV and Edie's *Economics: Principles and Problems,* Ch. XXXIII.

While there is truth in this argument and many infant industries have been nourished and helped to meet the competition of foreign products till they were able to stand alone, this practice of protection has been abused. Under this argument many industries have been protected long after they were able to meet foreign competition. Again, under this policy many industries have been urged and fostered that had no chance whatever of becoming economically productive without protection because of natural and other disadvantages. A great deal of industrial energy has been wasted on industries that could never be made as profitable as those industries in other countries. Consumers have had to pay higher prices for the products of such protected industries long after they were supposed to be able to stand alone.

It is very doubtful whether the farmers of the United

States have ever profited from the protection of infant industries. In the nature of things they could not. Agriculture as an infant industry in a new country usually has an advantage over agriculture in older countries. The supply of most agricultural products has exceeded the domestic demand and a part of the supply has been exported to foreign markets. Tariffs are ineffective on industries in which a part of the product must be exported. Again, agriculture is more dependent on climatic, soil, and topographical conditions, which cannot be overcome by the artificial means of a tariff. Attempts to stimulate the production of beet sugar, cane sugar, and wool in the United States have had little effect because of certain disadvantages under which these products must be grown as compared with other countries. The general effect of the protection of infant industries in the United States on most farmers has been to leave them without any effective protection and to compel them to pay higher prices for many of the products they consume.

The Development of Diversified Industries. There are many who contend that a country should have a great diversity of industries, so as to give free bent to the development of the different kinds of industrial talent and the different kinds of resources in the country, and particularly to enable the country to maintain itself in war, in case foreign markets should be shut off. The Germans have been the foremost advocates of this theory, and during the World War the Germans were undoubtedly enabled to hold out against the Allies and their blockade as long as they did, because partly through protection they had made themselves nearly 90 per cent self-sufficient in their food supply. Assuming a condition of potential warfare, this argument for diversified industries is a strong one, and appeals as much to farmers as other classes, provided they receive effective protection from such a policy. However, this argument has never been a strong one in the United States because of our comparative isolation and lack of danger from foreign invasion and deprivation of foreign markets, and because of our great diversity of resources that might be relied upon in case of war.

Today the question may well be raised whether farmers as well as all other groups would not find it far more profitable economically to work for peaceful cooperation and adjustment of nations, and the specialized production and exchange of commodities, in accordance with the principle of comparative advantage, rather than continue the old policies of industrial preparedness that result in wasted energies, national suspicions, and, in some cases, terribly destructive wars. Practically every country that has pursued a well-pronounced policy of industrial military preparedness has had to suffer from it in the long run. The experience of modern Germany is testimony of this fact. One of the greatest lessons for modern peoples to learn is that war and preparation for war are the greatest economic wastes.

A Home Market for Agricultural Products. According to this argument a tariff on manufactures will encourage the growth of manufacturing industries and create a domestic market among industrial workers for agricultural products. Farmers will prosper because of the increased demand for agricultural products. There are several difficulties with this argument. There is a surplus of the leading agricultural products and consequently the price of these products is determined in the world market rather than in the domestic market. Individual production and the tendency to overproduction among farmers keep the prices of agricultural products low. Since there is no tariff, or an ineffective tariff on farm products, and a tariff that is effective on other products, farm products tend to have a low value and manufactured products a high value. Therefore, the farmer gets less in exchange for his products than he would get by sending his products abroad and receiving foreign goods in exchange for them.

High Wages and Employment. The advocates of a protective tariff always appeal to wage earners for support on the grounds that a protective tariff enables employers to sell goods at a higher price in the domestic markets and to pay workers a high wage. By means of the protective tariff workers are protected against the cheaper labor of foreign countries. So far as the farmer as a laborer or the hired farm laborer is concerned, there is usually no protection from a tariff for this purpose, because few competing agricultural products are imported into the United States. Years of experience in England with free trade and in Germany with a high protective tariff for agricultural products have shown the unprotected English farmer and the English farm laborer to be in a much better economic position than the protected German farmer and the German farm laborer. There is no conclusive proof in the United States that the employees in the industries where tariffs are effective are receiving higher wages and more steady employment than employees in industries where there is no protection or where tariffs are ineffective. The wages that can be paid in an industry are determined by the economic productivity of the industry. Farm laborers and farmers working as laborers in the United States who receive wages of

$5 a day can produce rice and wheat and ship them to the Orient and undersell extremely low wage farmers and farm laborers. The reason is that farmers and farm laborers in the United States use far more efficient methods of production, and one man working with machinery in the United States can produce many times what one man working with hand tools can produce in China or Japan. The real effect of a tariff designed to give wage earners high wages and steady employment is to divert their energies from industries that would be most productive and that would pay them the highest wages.

Equalization of the Cost of Production. In late years many persons in the United States have advocated a tariff that would equalize the cost of production between two countries, on the assumption that foreigners sending us goods are made to pay the difference in the cost of production. But how are costs of production to be determined? The cost of production varies with the efficiency, managerial ability, and natural and economic advantages possessed by producers. Some producers have low costs and some high costs. There are low cost and high cost producers in all countries. If the high costs of production are taken as the basis for the tariff a premium is put on inefficiency. If the low costs are taken then the tariff will be insignificant. Furthermore, the effect of such a tariff pushed to its logical conclusion would be to nullify all foreign trade. The fundamental reason for foreign trade is the gain that each nation receives from producing those commodities for which it is best fitted to produce and exchanging them for commodities it is least fitted to produce. If an equalization policy was adopted and pushed to its logical conclusion by the European nations and the United States, then the farmers of the

United States would not be able to export any of their agricultural products to Europe, nor able to import any of the products that they need from abroad.

Prevention of Dumping. Sometimes the manufacturers of a country, who are producing more of a product than domestic consumers will take, will send their surplus to a foreign country and sell it at less than cost of production, in order to hold the price up at home. This is called dumping. Its purpose may be primarily to keep the price high in the domestic market. The argument is made, that if a country has a tariff policy, and particularly elastic tariffs that can be readily lowered and raised, such dumping can be prevented by putting the tariff high enough to keep out such goods. There is no doubt but that elastic tariff rates will help prevent dumping. But farmers of the United States may well ask themselves how much they are likely to suffer from dumping. Also it should be recalled, at this point, that many farm leaders in the United States have been advocating measures that would boost the price of farm products in the domestic market and at the same time facilitate the export of surpluses to foreign markets to be sold at cheaper prices than are paid in the domestic market. The farmers of the United States cannot consistently support measures that would dump their surpluses in foreign countries and at the same time support tariff measures that would prevent dumping surpluses of manufactured products in their own country.

Weapon for Retaliation and Bargaining. It is argued by some that a nation may gain by having a protective tariff which can be used for retaliating against countries that discriminate against our export products, and in bargaining with other countries for favorable trade advantages. The trouble with retaliatory measures is that they cut both ways. Protective tariffs more than anything else stimulate retaliation policies on the part of foreign countries. The farmers of the United States stand to lose more than any other class by retaliatory tariffs, because they must export a considerable part of their products. Tariffs as bargaining instruments have little or nothing to show in the way of trade advantages.

Interferes with Most Economical Production. The strongest argument against tariffs is that they interfere with the most economical production of goods. Each country has certain advantages and disadvantages in production. Tariffs encourage the production of commodities which countries are not particularly fitted to produce. Through protection persons are encouraged to develop industries ill adapted to the natural and economic conditions of their country. Capital and labor are induced away from the fields of most economical production. By the enterprisers and workers in each country turning their energies to the industries that are most productive, because of natural and economic conditions, a greater volume of goods is produced and exchanged and all concerned are correspondingly benefited. This argument that tariffs hinder the natural economic development of countries is one of the most difficult arguments for protectionists to meet from the economic standpoint.

Increases the Cost of Living. Perhaps the most effective argument brought against tariffs is that they increase the cost of living to consumers. If the tariff on products consumed within a country is really effective, the price of the products is increased to the extent of the tariff. Farmers selling their products in markets in which the price is not boosted by a tariff and buying the products they consume in a protected market, the prices of which are higher for that reason, are placed at an economic disadvantage. The cost of living and other costs for the farmers of the United States have usually been raised, without any compensation, because of high protective tariffs.

Class Favoritism. Unless all classes of people receive equal tariff protection, tariffs must inevitably favor some classes as against others. Since most of the farmers of the United States have been unable to profit by tariffs on their products, farmers as a class have gained little or nothing by tariffs. Indeed they have lost, because they have had to pay higher prices for many of the products which they buy. The effect of most protective tariffs is to rob Peter to pay Paul, and in the United States the vast majority of farmers have been the Peters, though too often they have not realized it.

Creates Trusts and Monopolies. That protective tariffs create trusts and monopolies has been one of the charges brought against them. During the period of trust formation in the United States, farmers as a class developed an open hostility to big business, claiming that these big concerns conspired to keep down the price paid to farmers for their raw products and also to charge higher prices for the products farmers had to buy. No doubt high protective tariffs did aid somewhat the development of trusts and monopolies. In some industries tariffs kept out serious foreign competition and enabled domestic producers to consolidate for price control. But it is incorrect to say that the tariff has been the chief or primary cause of trusts. The chief cause of trusts is the economy of large scale enterprise.

Inefficient Management. It is claimed by many persons that protective tariffs lead to inefficient management and high costs of production, which must be paid for by consumers. Producers who are shut off from effective outside competition by a high tariff wall have no incentive to make improvements in the technique and organization of their industries. Stagnation and high costs of production are the result. No doubt there is some truth in the argument that farmers have helped pay these higher costs of production in the protected goods they have bought. However, it must not be overlooked that except in the case of monopoly control of supply, there is usually sharp competition among domestic producers, which stimulates efficient management.

International Ill-Will. High protective tariffs without question help to breed ill-will among the peoples of different nations. Particularly do discriminatory tariffs have this effect. Farmers and other classes have not yet understood how destructive national ill-will and wars are upon their economic well being. They have become habituated to thinking that wars are inevitable, that nations are driven to destructive combat as by some uncontrollable fate. But the fact is wars are caused by men, and often by a small class of men who press trade advantages, seemingly very profitable to them, but often disastrous to many other classes of people. The terrible cost of modern wars in both life and wealth is a challenge to farmers and all other classes to see that tariffs that breed international ill-will are eliminated.

C. BRIEF HISTORY OF TARIFFS IN THE UNITED STATES [2]

The Early Tariffs. In 1791 Alexander Hamilton brought out his famous *Report on Manufacturers* in which he advocated a protective tariff. But till 1816 tariffs levied were very low and chiefly for revenue. During the period of the War of 1812 the manufacture of various commodities developed in the Northeast, and after the War it was feared that these new industries could not withstand the competition of European goods. In 1816 all sections of the country united in securing the passage of a mildly protective tariff measure, with duties varying from 7½ to 30 per cent ad valorem. Special protection was given to iron, woolens, cottons, and certain other manufactured goods. The agricultural interests were not united in their attitudes toward the tariff. John C. Calhoun, representative of the agricultural interests of the South and afterwards bitter opponent of a protective tariff, led the fight for the enactment of the bill. Daniel Webster, from Massachusetts, representing agricultural and commercial interests, opposed the protective tariff. This early alignment of the South and New England on the tariff was very different from what it came to be a generation later and has remained down to the present time.

The American System of Clay. The name of Henry Clay of Kentucky is associated with the so-called American System, of which he was the chief champion and a life-time advocate. Clay represented the agricultural interests of the West. His theory was that a protective tariff on manufactured goods would cause industries to develop and the industrial population to increase, so that the farmers would have a good domestic market for their products. The farmers of Kentucky also grew large quantities of hemp which they wanted protected against foreign competition and Clay was their spokesman. From 1820 to 1830 protective sentiment grew among the farmers of the West and the manufacturers of the middle states. By 1828 the farmers of the South were beginning to realize that a protective tariff was a disadvantage to them. They sent their chief exports to the European market and were not benefited by protection. On the other hand, they wanted to buy manufactured articles as cheaply as possible. They began to oppose a protective tariff. Opposition of southern planters and farmers to a protective tariff culminated in the famous Nullification Ordinance of South Carolina in 1832, declaring the tariff acts of 1828 and 1832 null and void. In 1833 a compromise was effected between northern and western advocates of a protective tariff and southern opponents of protection, and rates were gradually lowered until the Civil War. During the period of Clay's advocacy of the American System, the tariff became more and more a sectional issue. The Northeast, with its growing manufactures, desired protection. The South, with large foreign exports and needing to import manufactured products, opposed protective tariffs. The tariff issue between northeastern manufacturers and southern planters had to be settled by western farmers. The North and the South began to bid for the support of the West on the tariff issue. In 1860 the manufacturers of the Northeast and the farmers of the West got together in the newly formed Republican Party. The Northeast agreed to support legislation for free land for the West in exchange for support of a protective tariff for the East.

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[2] The chief sources of the brief history of tariffs in the United States given in this section are Taussig's *Tariff History of the United States,* 6th Ed., and Tarbell's *The Tariff in Our Times.*

Trend of Tariff Rates 1832-57. From 1832 to the Civil War there was a tendency to reduce tariff rates. The Walker Tariff of 1846 was the outstanding tariff legislation of this period. Under this tariff commodities were divided into luxuries, semi-luxuries, and other products, and tariffs on luxuries placed at 100 per cent, on semi-luxuries at 40 per cent, and on other products rates ranging from 30 down to 5 per cent. In 1857 duties were further reduced and the free list greatly increased. From 1840 to 1860 industries developed rapidly in the North and protection was demanded. The West and the South, however, the strongholds of agriculture, were little concerned about tariffs, or wished low tariffs. Southern planters in control of politics wanted no protection. Planters of the South and farmers of the West were much more concerned about the free lands of the West than they were about a protective tariff.

Civil War Tariffs. By 1860 protectionist sentiment had become strong in the manufacturing North. In the platform of the newly organized Republican Party a plank was inserted calling for imposts that would encourage the development of industrial interests of the whole country. The agricultural states of the West were won over to a protectionist policy by promise of support for free land and railroads for that section. During the Civil War and the three decades following tariffs were increased. Iron and wool duties were granted to get support of people of Pennsylvania and of farmers of the West. By 1864 the average duties were 47 per cent. Duties were high on iron, coal, lumber, hemp, and flax. Wool schedules particularly were raised. Though a few attempts were made to lower duties, no important changes were made till 1890. Farmers were given protection on wheat, corn, barley, flax, and hemp.

Tariff Act of 1890. In 1888 Grover Cleveland in a famous message to Congress demanded a lowering of the tariff. The tariff was made the issue of the campaign of 1888, at which time Cleveland was defeated for re-election. Congress, taking the election as a demand for a higher tariff, proceeded to enact one. The duty on wool was increased, as were the duties on wheat, corn, barley, flax, and hemp. Raw sugar was admitted free, but a bounty of two cents a pound was paid domestic producers of sugar. On practically all manufactured products, which farmers bought, tariff duties were increased. The bill as passed was intended to shut out woolens, high grade cottons, cotton knit goods, stockings, linens, iron, steel, and metal products, articles affecting, directly or indirectly, the standard of living of all classes. Duties on protected products were raised from an average of 38 per cent to 49.5 per cent. The duties placed on agricultural products by this tariff were really non-effective, except in the case of wool. The placing of tariff duties on agricultural products was a political maneuver by which the manufacturing East got protection through the votes of the agricultural West.

Wilson-Gorman Tariff of 1894. In the next two elections after the McKinley tariff bill went into effect the Republicans suffered defeat. The western states and the South, representing agricultural interests chiefly, had begun to fear trusts and monopolies and it was believed that the high tariff duties were the chief causes of the trusts and monopolies. Wool, coal, iron ore, hemp, and flax were placed on the free list, also agricultural machinery, cotton bagging, salt, and twine. There was a reduction on many schedules but not large reductions. A duty of one cent a pound on raw sugar and one-eighth cent a pound on refined sugar was levied. President Cleveland denounced the bill as party perfidy and dishonor and let it become a law without signing it.

Dingley Tariff of 1897. In 1897, soon after taking office, President McKinley called an extra session of Congress to deal with the tariff. The duty on wool was restored to eleven and twelve cents a pound to get the support of the ranchers of the far West. Hides, free since 1872, were protected at 15 per cent. Duties on woolens running as high as 55 per cent were levied. Tariffs on silks, linens, and cotton goods were made much higher, also those on iron ore, metals, cutlery, and lead. The Dingley Tariff of 1897 represented the highest degree of protection ever reached in the tariff history of the United States up to that date.

Tariff Act of 1909. From 1900 to 1908 there was a steady rise in the cost of living. There was a rapid growth of trusts and monopolies during this period also. Many persons charged that the high tariff duties were responsible for the rising cost of living and for the growth of trusts and monopolies. A demand was made for the revision of the tariff. In 1909 a new tariff act was passed. The act lowered only a few of the high tariff duties. The outstanding thing connected with the act of 1909 was the opposition of "insurgents" representing the agricultural states of the Middle West to many of the high duties, and particularly to the duties on wool and woolens. However, the wool and woolen duties were left intact. So was the duty on sugar. Hides were placed on the free list. As a whole the tariff act of 1909 was highly protective.

Tariff Act of 1913. The Tariff Act of 1909 was highly disappointing to many people, and particularly to the farmers of the South and West. The cost of living still continued to rise. In the elections of 1910 and 1912 the tariff was the leading issue. After the Democratic victory of 1912 Congress was called in special session to consider the tariff. The Act of 1913 went further towards a real reduction of the tariff than any act since the Walker Tariff of 1846. Sugar, wool, hides, wheat, flour, cattle, meats, eggs, milk, and cream were placed on the free list. Coal and lumber were also placed on the free list, and so were all agricultural implements. The duties on a large number of the products that farmers had to buy were either lowered or abolished.

The Tariff Act of 1922. After the War a high protective policy was again inaugurated by Congress. Duties were restored or increased on practically all imported manufactured commodities. The agricultural representatives of the West made a strong demand for duties on agricultural products. The agricultural West combined with the industrial Northeast in supporting one of the highest protective tariffs ever enacted. Under the Act of 1922 (still in force in 1928) tariff duties were laid on practically every farm product except cotton. For the first time in the history of tariff-making the representatives of the agricultural West became out-and-out protectionists and demanded protection on all their products. Suffice it to say that most of the tariff duties on agricultural products under this tariff are non-effective because we import only small amounts or none of these products.

D. EFFECTS OF THE TARIFF ON AGRICULTURE IN THE UNITED STATES

General Effects of Tariffs on Agriculture in the United States. The conclusions of practically all economists in the United States are that protective tariffs have been of very little value to the agricultural industry of the United States as a whole. Tariffs on most agricultural products up to the present time have been noneffective, because the United States has been on either a self-sufficient or an export basis for most agricultural products. Tariff duties do not affect prices of products which are exported or which do not have to meet the competition of foreign imports. However, there are a few products which are more or less affected by the tariff to which special attention must be given.

The Tariff on Wool. The most famous of all the tariffs affecting farm products in the United States has been the tariff on wool. Scarcely a decade has passed that has not witnessed a change in the tariff on wool. What has been the effect of raising and lowering the tariffs on wool? Fortunately, several careful economic studies have been made, attempting to show the influence of tariffs on the wool-growing industry.[3] All three of these studies of the relation of the tariff to wool-growing arrive at about the same conclusion, namely that the tariff, despite all its changes, has been only a minor factor affecting the wool-growing industry. By far the most important factor affecting the economic status of the wool-growing industry has been cheap frontier lands. The number of sheep raised has been little affected by tariff legislation, the number decreasing little when there was no tariff on wool, and increasing a little when a high tariff on wool prevailed. The latest of these special studies concludes: "It is not advisable permanently to maintain a duty on wool. The burden on consumers of wool goods more than counterbalances the gain to producers. Moreover, there is no element of public policy which dictates the indefinite retention of a duty. It is not necessary for national defence, nor because of 'vested rights' of wool growers. Sheep raising is not an 'infant industry,' nor can the duty be said to aid materially in diversification of industry. In maintaining a duty we are, in the words of the old adage, 'paying too much for our whistle.'"

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[3] Taussig, *Some Aspects of the Tariff Question*, Ch. XIX; Wright, *Wool-Growing and the Tariff*; Smith, *The Tariff on Wool.*

Tariff on Sugar. Next in importance to the tariff on wool is the tariff on sugar. Here again we are fortunate in having a careful and unbiased study,[4] the conclusions of which are given at this point. According to this study the domestic supply of sugar in the United States, both beet and cane sugar, is produced at varying costs. As compared with other countries having a more favorable climate and cheaper labor, the cane sugar producers of Louisiana and the beet sugar producers of the West are at a great disadvantage. Sugar generally is produced at a low margin. The effect of tariff duties has been to cause moderate increases and decreases in domestic production. A duty on sugar stimulates production and free sugar causes production to fall. In either case production adjusts itself to the situation, either with a tariff on sugar or with free sugar. The economic burden due to sugar duties is estimated to be about $1.97 per capita annually. The revenue aspect of the tariff on sugar seems to be more important than its protective features.

[4] Wright, *Sugar in Relation to the Tariff.*

Tariff on Cattle. Another careful study of the relation of the tariff to the cattle industry brings out the following facts with regard to the tariff on cattle:[5] The cattle industry has declined in importance with the passing of frontier conditions. The United States is passing from a national beef-surplus to a beef-deficit condition. Increase in beef production can be secured only at increasing costs. Increased expansion in the United States must be at higher prices. Though a tariff has been levied for a long time on cattle, except for a short period of seven years, tariffs to date have had pratically no effect on the cattle industry. The present cattle industry in the United States is not dependent on tariffs. To become effective in stimulating prices a very high tariff would have to be enacted, which would call forth further production under very disadvantageous conditions. "Analysis of the gains and burdens to the country as a whole that may be expected to result from the continuance of duties on cattle and beef indicate these duties, though they do not now directly affect any domestic interest very appreciably, will eventually impose an economic burden on the country that will not be compensated by other effects which they may have upon the national welfare."

More Cost Than Gain for Farmers in the Tariff. A few years ago the American Farm Bureau Federation made a study of the effect of the tariff schedules of the Fordney-McCumber Tariff of 1922 on the agricultural industry in the United States. A summary of the conclusions of the Federation are here given as taken from a report in their Weekly Bulletin. According to this study the gains accruing to different classes of farmers of the United States through tariffs on agricultural products was $124,800,000 a year, but the loss to other farmers, who had to pay higher prices for these agricultural products, because of the tariff, was $94,000,000 a year, leaving a new gain of about $30,000,000 to farmers as a whole from the tariff on agricultural products. However, the estimated extra cost to farmers on other tariff-taxed goods was about $331,000,000 a year. Subtracting the net gain of $30,000,000, gained by farmers, from the loss of $331,000,000 suffered by farmers because of the tariffs on commodities farmers buy, the net loss to the farmers through the tariff was estimated to be $301,000,000 a year. The conclusion of the study was that under present conditions farmers as a whole in the United States lose much more than they gain by a tariff with rates like those of the Fordney-McCumber Tariff.

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[5] Edminster, *The Cattle Industry and the Tariff.*

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CHAPTER XVII

THE FARMER AND TAXATION

A. General Character of Taxation

The Farmer's Interest in Taxation. Taxation has an important effect upon the economic condition of the farming population. Farmers pay out a considerable part of their annual income for direct taxes. Recent studies made by the United States Department of Agriculture show that state and local taxes take from 10 to 50 per cent of the net farm income in different sections of the United States. In 1913 taxes absorbed 4.9 per cent of the gross value of farm products, while in 1923 taxes absorbed 7 per cent of the gross value of farm products. State and local governmental units in the United States obtain about 80 per cent of their revenues from the general property tax. Since such a large proportion of farm property is the kind that can be most readily discovered for assessment, farmers have felt the heavy tax burden more than any other class. The major items of expenditure in the state and local governmental units are for schools and roads, and farmers are demanding better roads and better schools. Any material reduction in taxes is hardly to be expected. Relief for farmers from unduly heavy taxation must come from a more equitable system of taxation as between farmers and other classes. In view of the already heavy burden of taxation on farm wealth, the growing demand of farmers for better schools, roads, and other public services, and the various attempts being made to establish more equitable systems of taxation, farmers must recognize taxation to be one of their most important economic problems. In order to protect their own interests farmers need to understand the general nature of taxation, the different systems of taxation, and the effects of different kinds of taxation on the economic condition of the farmer.

Nature and Kinds of Taxes. Taxes are compulsory payments made by individuals and corporations to the government for public purposes. The compulsory payment of taxes is based on the assumption that individuals and corporations receive certain necessary and beneficial services from the state. In the United States there are several different civil divisions, each one levying and collecting taxes for specific purposes, within its jurisdiction. These different civil divisions are the Federal Government, the State Governments, and the various local governmental districts. The Federal Government receives its revenues from five chief sources: (1) internal excise and consumption taxes on certain products; (2) custom duties, or tariffs, on imports; (3) taxes on incomes of individuals and corporations; (4) taxes on profits; (5) and taxes on gifts, estates, and inheritances. The states and minor civil divisions get their revenues from: (1) taxes on property; (2) taxes on corporations, businesses, and occupations; (3) taxes on individuals (poll taxes); (4) taxes on incomes; (5) taxes on inheritances; (6) fees and license taxes; (7) special assessments; and (8) from the sale of public properties.

Taxes are direct or indirect, that is they are paid directly to the government by the individual or corporation, as taxes on property or income, or they are paid indirectly by the purchaser or consumer of a product, such as a tax on theater tickets, or a tariff duty on imports. Again, taxes are proportional or progressive. A proportional tax is one in which the tax bears a constant ratio to the value of the property or income, regardless of the amount of the property or income, as a tax of 25 mills on $100 worth of property, or a tax of 10 per cent on incomes. A progressive tax is one in which the rate of taxation increases with the size of property or income, as the taxation of farms of different sizes at different rates in Australia, and the taxation of incomes of different sizes at different rates in the United States.

The Functions and Uses of Public Revenues. Taxes are paid to support governmental activities. Every individual and every business is benefited directly or indirectly by governmental services. The chief services of government are: (1) protection of life, property, and health; (2) the maintenance of peace, safety, and security; (3) the guarantee of freedom of contract and the enforcement of contracts, without which no business could be transacted; (4) the protection of free competition and the prevention of oppressive monopolies and unfair business practices; (5) the regulation of transportation and commerce; (6) the promotion of public welfare through education, improved roads, sanitation, food inspection, hospitals, clinics, quarantine, parks and recreation.

Farmers are benefited by all of these services. In recent years farmers have demanded such special public services as agricultural education and research, agricultural extension agents, bureaus for the improvement of marketing, land reclamation, eradication of pests, and improved credit facilities through government action. When farm taxes are considered in connection with the large number of public services enjoyed by farmers, they cannot be regarded as an unremunerated burden on the farming population. In almost every phase of his life the farmer is touched by governmental activities. Farmers, like all other classes, constantly demand more and better public services, particularly in the way of schools and roads. Taxes are high because people demand so many public services.

Requisites of a Sound Tax System. There are certain fundamental requisites of a sound tax system that should be embodied in tax legislation. An American student of public finance has laid down eight requisites of a sound tax system.[1] (1) It must yield an adequate revenue, considered from both the short and the long-time point of view. (2) It must be economical, that is the various taxes in the system must be easy to collect, else the overhead cost of collection will absorb too much of the revenue. (3) It must be equitable, that is it must work justice to all classes, by distributing the burden of taxation in such a manner as not to burden one class unduly, or to relieve another class from paying taxes that it is able to pay. (4) It must be elastic, that is the tax system must be able to respond to changing needs of revenue by changes in rates. (5) It must be flexible, so that it can be made to reach new sources of revenue. (6) It must be simple, so that it can be readily understood by taxpayers and easily administered by tax officials. (7) It must contain a diversity of taxes, so that it will reach as many people and classes of property as possible. (8) It must not impair the sources of revenue. In our present complex society it is highly important that farmers insist upon a taxation system that embodies these fundamental principles.

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[1] Lutz, *Public Finance,* Ch. XV.

Justice in Taxation. Justice is the most important principle to be observed in the making of a taxation system. Application of the equity principle is extremely difficult in taxation because of the difficulties in deciding what the equitable principle should be. However, it is necessary for the makers of taxation systems to follow some principle of equity in enacting tax legislation. Most students of taxation have come to the conclusion that the principle of justice to be followed in taxation is that people pay taxes in proportion to their ability to pay. An English economist has advocated the taxation of the surplus that people have as the fairest method of taxation.[2] This principle of the taxation of the surplus may be illustrated as follows: A state of 400,000 families, with incomes ranging from $1,000 to $500,000 has a total net annual income of $2,400,000,000 a year. The cost per family, of a living standard that will insure physical and social efficiency, is $2,000 a year. Taxes needed to run the state are $60,000,000. How are the taxes to be raised? Justice demands, first that an exemption of $2,000 be made for each family, which is the cost of the necessities and comforts of life, and, secondly, that a sufficient amount for replenishment and increase of needed capital be exempted from taxation, and that the $60,000,000 of taxes be taken from the surplus remaining after exemptions are made for an adequate standard of living and for needed industrial capital, incomes with a surplus above $2,000 to be taxed progressively as the incomes rise. By taxing the surplus incomes (those above $2,000) taxes will be collected from those most able to bear them without making heavy sacrifices.

Net income, or a surplus, is the best test of the ability of one to pay taxes. Because the person with a large net income suffers no inconvenience in paying taxes, while the person with a small net income must make a sacrifice to pay taxes, the principles of progression and exemption have come to be fundamental in attempts to equalize the burdens of taxation. Farmers in the United States today are suffering more than any other class, because of the failure of tax systems to embody this principle of justice based on ability to pay. On the basis of net income farmers are paying higher taxes than any other class of people.

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[2] Hobson, *Taxation in the New State.*

The Incidence of Taxation. A very important phase of taxation is incidence, that is where or upon whom the taxes levied and paid ultimately fall or rest.[3] The burden and the distribution of taxes among different classes are greatly affected by the incidence of the taxes. Some kinds of taxes are borne by the people who pay them and cannot be shifted to another person, such as poll taxes, income taxes, and inheritance taxes. Other taxes, while paid to the government by one person, are shifted to other persons, who bear the burden of them, such as taxes on imports, on internal excise goods, and on sales. It is generally conceded by all students of taxation that taxes on incomes, inheritances, and land cannot be shifted, and therefore rest on the persons who pay them. On the other hand, taxes on imports, internal excise goods, consumption goods, sales, transportation services, and professional and personal services are shifted to those persons who consume these goods or buy the services of those taxes.

Of special interest to farmers are the two questions, whether taxes on land are shifted by landlords to tenants, and whether taxes on farm mortgages are shifted by the creditors to the debtors. In the case of the incidence of taxes on land, it must be kept in mind that rents, out of which taxes are paid, are determined by the net gains from the land, the excess of production over the cost of production. This net gain in turn is determined by the price of products sold from the land. The tenant pays rent on the basis of the net gain he makes. If taxes were passed on to him by the landlord he would simply pay less rent, which would mean that the landlord would really pay the tax. As to taxes on mortgages, it is generally believed that such taxes are shifted to the borrower through an increase in the interest rate. Data collected by the Bureau of Agricultural Economics on interest rates on farm mortgages bear this out.

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[3] See Lutz, *Public Finance*, Ch. XVII; Hunter, *Outlines of Public Finance*, Ch. VIII; Jensen, *Public Finance*, Ch. XII.

Efficient Tax Administration. Students of taxation have rapidly come to the conclusion that efficient administration is one of the most essential features of a good tax system. Problems of tax administration include coordination of different kinds of taxes, machinery and experts for making assessments, reaching all the different sources of taxes, and equalizing the burdens of taxation. In the past, American state taxation systems have suffered greatly from too much decentralization. Too much has been left to local, county and township assessors and collectors. The present tendency in state tax administration is to establish centralized tax commissions or bureaus and give them strong powers over local assessors. The assessment of wealth of a state-wide nature is placed in the hands of state experts. Though farmers usually oppose movements to centralize governmental functions, they stand to lose rather than gain by helping prevent the centralization of taxing power in state commissions or bureaus. Experience has shown that centralized state tax commissions or bureaus with strong powers over local assessors, and employing experts on taxation, greatly improve administration of taxes, and bring about a more just distribution of tax burdens between individuals, classes, communities, and counties.

B. Special Tax Problems of the Farmer

The Farmer's Increasing Tax Burden. Though farmers have always complained about high taxes, they have found taxes unusually burdensome during the last five years. The United States Department of Agriculture has estimated an increase of taxes on farm property from $344,000,000 in 1914 to $797,000,000 in 1922.[4] In 1924 the Department reported, that while taxes absorbed 4.9 per cent of the gross value of farm products in 1914, they absorbed 7 per cent of the gross value of farm products in 1923. Reports from 16,182 farmers in all parts of the United States in 1923 showed that taxes averaged 17.6 per cent of net farm returns. It was reported at the same time that taxes had increased from two to six times as fast as land values in different parts of the country, and that in large sections of the country taxes had absorbed from 10 to 50 per cent of the net farm income.

Federal Taxes. Farmers contribute to the support of the Federal Government through excise taxes, tariff duties, and income and inheritance taxes. Many goods bought by farmers bear excise taxes or tariff duties. It is not possible to estimate just how much farmers pay in taxes to the Federal Government through excise taxes.

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[4] *Agriculture Yearbook*, 1923, pp. 7-8.

The American Farm Bureau estimated in 1922 that American farmers paid $331,000,000 a year to the Federal Government through increased prices caused by the tariff. The Federal Government also taxes incomes and inheritances. The Federal Income Tax of 1924 provided that unmarried persons begin paying a tax on net incomes in excess of $1,000 and married persons and heads of families on incomes in excess of $2,500. The rates of payment are 2 per cent on the first $4,000 of net income, 4 per cent on the next $4,000, and 6 per cent on all net incomes in excess of $8,000. In addition there is a surtax which begins with a rate of 1 per cent on incomes between $10,000 and $12,000, and rises to 40 per cent on all net incomes in excess of $500,000. In 1923 only twenty-nine farmers out of each one thousand paid federal income taxes. No doubt the proportion paying Federal income taxes today is much higher. The Federal Revenue Act of 1924 provides for the progressive taxation of estates or inheritances at rates varying from 1 per cent on the net amount of estates, not in excess of $50,000, to 40 per cent on estates in excess of $10,000,000, with an exemption of $50,000 allowed residents of the United States. Since few farm estates exceed the value of $50,000, few farmers pay a Federal inheritance tax.

State and Local Taxation Systems. State and local taxes place the heaviest tax burdens on farmers. State and local tax units include the state, the county, the township, and special tax districts. The taxation system varies from state to state. However, state taxation systems in the United States have quite a number of features in common. The general property tax is the backbone of state and local taxes in most of the states. The general property tax is supplemented in different states by other taxes, such as poll taxes, income taxes, inheritance taxes, corporation taxes, business taxes, license taxes, and fees. If farmers are to fare more equitably in the payment of taxes to support state and local government, their recourse lies largely in the revision of state and local taxation systems.

The General Property Tax and the Farmer. The general property tax is one of the oldest American state taxes and is still the most important tax from the farmer's standpoint. The general property tax came extensively into operation during the early days of our country, when most of the property in the different states was farm property. As each new state came into the Union it imitated the older eastern states in making the general property tax the cornerstone of the state and local taxation systems. Under the general property tax all property is assessed at its full or partial value and a flat rate of taxation levied on the property on a value basis regardless of the amount of property held by any individual. In some states there has been a segregation or classification of different kinds of property for the support of different units or for levying different rates on different kinds of property.

The general property tax rests on three assumptions:[5] (1) that every person should pay taxes in proportion to his ability to pay, the amount of property possessed being the test of this ability; (2) that all property is a homogeneous mass, one class of property serving as well as another as a true test of a person's ability to pay; and (3) that the tax can be effectively administered. In the early pioneer farming communities of the United States, when practically all property was visible, tangible property, land, buildings, live stock, and implements, no doubt these assumptions were approximately true. During these early days of relatively simple rural property conditions farmers became accustomed to the general property tax as the chief source of state and local revenues. Even though conditions in many states have greatly changed and new sources of revenue have developed, farmers still cling to the general property tax. In 1922 the proportion of all state and local taxes raised by the general property tax varied from 74 to 85 per cent in different geographical divisions in the United States.

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[5] Lutz, *Public Finance*, pp. 322-325.

Defects of the General Property Tax. The general property tax has serious defects, particularly from the point of view of farmers.[6] These defects arise partly out of the erroneous assumptions upon which the tax is founded. It is not true in most of the states today that property is homogeneous. There are many different kinds of property, particularly in those states that have large urban populations and diverse industries. The many different kinds of property can be conveniently divided into three classes: (1) real estate, including land, buildings, and other immovable forms of property; (2) tangible personal property, including live stock, implements, vehicles, automobiles, household goods, furniture, merchandise, and many other goods; and (3) intangible personal property, including bonds, stocks, mortgages, notes, bank deposits, and various property rights.

The first serious defect of the general property tax growing out of the erroneous assumption of the homogeneity of property is that much property escapes taxation entirely, particularly tangible and intangible personal property. Real estate, live stock, and machinery, which consti-

[6] Lutz, *Public Finance,* pp. 326-350.

tute the bulk of farm property, are taxed heaviest, because they are tangible and visible and are easily assessed, while much tangible and intangible personal property escape taxation because hidden from the eyes of assessors. Under these conditions real estate and real property bear an unduly heavy tax burden. The tax really puts a premium on dishonesty and penalizes honesty.

A second defect of the general property tax lies in the assumption that ability to pay taxes is measured by the value of the property one owns. This is not true at all in our modern complex society. There are many people who have little property and large incomes, especially the professional classes. While these persons enjoy all the public services of the community and state, they do not contribute in taxes in proportion to their ability to pay. On the other hand some properties may be held and operated at an actual loss, but at the same time contribute to the welfare of the community. From 1921 to 1925 many farms were operated at an actual loss to the owners, and yet non-farming population had the benefit of cheap farm products.

A third defect in the general property tax is inequality of assessment between different local districts. Each local assessor trying to keep taxes low for his own district pares down assessments to the minimum, and purposely overlooks certain properties. A study made in Wisconsin in 1907 showed farm property assessed at 59.2 per cent of its true value, whereas property of manufacturers was assessed at only 21.8 per cent of its true value. Studies made in Indiana, Ohio, and Kansas have shown small parcels of land assessed at much higher values relatively than large estates. In a recent tax study in Kansas it was shown that the smaller the estate the closer to the true market value was the estate assessed. This striking fact is brought out in the following figures:[7]

Value of Property	*Per Cent Sale Price Assessed*
Below $1500	85.7
$1500 to $2999	76.7
$3000 to $4499	72.9
$4500 to $5999	70.0
$6000 to $7499	66.4
$7500 to $8999	65.3
$9000 to $10,499	62.3
$10,500 and above	58.7

As between different counties in a state, it has been found that while some counties assess property at 10 to 20 per cent of true value, other counties assess property at 75 to 100 per cent of true value.

A fourth defect of the general property tax is that double taxation is made inevitable. Mortgages, bonds, stocks, and notes are taxed, while at the same time the real property they represent is taxed also. The land farmed by the farmer is taxed, while at the same time the mortgage on the land is taxed, theoretically at the same rate.

The Farmer Cannot Shift His Taxes. A tax on any kind of property is a fixed charge from the point of view of the owner. A tax must be regarded as one of the overhead costs in production. In many industries taxes are shifted to the consumers of the products, by the addition of the tax to the sale price of the product. Can taxes on farm property, particularly land, be shifted? There are two reasons why such taxes cannot be readily shifted.[8] In the first place, agricultural products from high-priced, high-taxed lands are always being sold in competition

[7] *Kansas Sta. Bul.* 232.

[8] *Agriculture Yearbook*, 1924, pp. 263-266.

with products from low-priced, low-taxed lands. Since the products from the low-priced, low-taxed lands sell on the market for the same price that the products from the high-priced, high-taxed lands sell, the producers of products on high-priced, high-taxed lands bear at least a part of the tax burden in order to meet the competition of producers on low-priced, low-taxed lands. In the second place, many farmers are producing products at a loss. They continue in their occupation even though they fail to get cost of production for their products. They bear the cost of taxation, as well as other costs, as losses. As already stated in various connections, agriculture has always been and still continues to be a highly competitive industry. The supply of agricultural products always tends to outstrip demand for the products. Farmers are forced to sell at low prices. Under these conditions they are not able to shift the burden of taxes to consumers of agricultural products.

Farm Taxes in Relation to Farm Earnings. Farm taxes have been very high in relation to farm earnings, particularly from 1920 to 1926.

Farm taxes are also high in comparison with taxes paid by other classes. A report of the Bureau of Internal Revenue based on corporation returns for 1922 shows corporations engaged in agriculture and related industries paying a higher percentage of their profits for state and local taxes than corporations in other lines of industry.[9] The percentage for each type of industry was as follows: agriculture and related industries, 65.3; mining and quarrying, 45.4; wholesale and retail trade, 16.0; manufacturers, 13.9. A study in New York of the relation of taxes to net profits of partnership firms for the year 1922 shows farming exceeded by only one other industry, mining and quarrying, in the proportion of net profits going for taxes. A tax survey in Dane County, Wisconsin, showed that in 1924 farmers paid nearly three times as large a percentage of their net incomes in taxes as did city and village people.[10] Without question farm property is subject to more burdensome taxation than any other industry, with the possible exception of mining and quarrying.

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[9] *Ibid.,* pp. 269-271.

State Activities and the Farm Tax Burden. It is a well-known fact that the bulk of the taxes paid by farmers goes to support schools and roads, which are really state, and not local, functions. However, county and local districts pay most of the school and road taxes. The effect of raising by local levies such a large part of the taxes for schools and roads, which are by far the two most important state functions today, has been to place unequal, and in many districts, very heavy tax burdens on farmers.[11] While one district may be more able to bear taxes, another district may have much larger costs per unit of service. The result is that though taxes for schools and roads are intended for common state purposes, different local districts often pay taxes in inverse ratio to their taxing capacity. While the cost of education per pupil is greater in rural communities, assuming equal standards, the taxable wealth basis of education is much greater in the populous urban districts. The cost per mile for the construction of continuous state highways is just as much in a sparsely settled district as it is in a thickly settled district, and yet the thickly settled district may have four or five times as much taxable wealth as the sparsely settled district. The support of these important state functions by local tax levies lays an unduly heavy tax burden upon farmers of many local districts.

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[10] *Wisc. Sta. Bul.* 393.

[11] *Agriculture Yearbook,* 1924, pp. 272-281.

Farmer's Interest in Tax Reform. The heavy tax burden on agriculture has aroused the interest of farmers and farm organizations in tax reform. The general property tax has come in for much criticism and proposals are being made for its improvement and the elimination of its most serious defects. New sources of revenue are being sought. Attempts are being made to equalize tax burdens between different classes and between different districts. Farm organizations are employing tax experts to study tax systems and make reports to them on the effects of different kinds of taxes on farmers and ways of improving tax systems for the advantage of the farmer.

Public Expenditures and Rural Welfare. In advocating tax reforms, farmers need to understand the relation of public expenditures to rural welfare. Farmers cannot afford to take steps backward in their attempts to relieve themselves of unduly burdensome taxation. Farmers do not want to curtail the public services they enjoy, such as schools, roads, public health provisions, agricultural extension service, and many other governmental services essential for a progressive community life. Indeed, in many districts, farmers need more of these services to bring themselves up to the level of other communities. The total of public expenditures most likely cannot be decreased. In fact, we may expect them to increase. The tax problem of farmers is to discover and help secure systems of taxation that will bring about a more equal distribution of taxes between farmers in different districts and between farmers and other classes. The problems of taxation have become so complex that it is necessary for farmers to work through organizations and utilize the services of tax specialists, in order that they may be properly informed and effectively represented before state legislative bodies. Other groups will press their interests before tax legislative committees. Farmers cannot afford not to press their interests.

State Financing of State Functions. As has already been pointed out, such public functions as schools and roads are really state functions and not local community functions. These two important state functions, as well as other public functions, like health administration, food inspection, agricultural extension service, and police protection should receive large support from the state government. If the states would assume greater financial responsibility for these functions, and relieve counties and smaller local tax districts of the heavy burden of supporting these functions, relief could be given over-taxed farmers in districts with little wealth.

There are several strong arguments in favor of the state governments assuming a larger proportion of the cost of schools, roads, public health, and other important welfare services. (1) There is a constant migration of rural people in the most productive period of their lives from one rural district to another and particularly from rural districts to the cities. The general social welfare demands that this migrating population receive the same social advantages before migrating that the inhabitants of districts receiving them enjoy. Equity demands that districts receiving this surplus population in the most productive age of young manhood and young womanhood, help pay the cost of preparing them for the work they do in these districts to which they have migrated. (2) While towns and cities are separate political units from rural districts, they are organically dependent on rural districts for their wealth resources. Most urban wealth has its source in rural districts. It is nothing more than just that urban wealth should help support public services in rural districts. (3) Public highways, which are a big cost to rural districts, have really become state highways. Urban people use these highways even more than farmers. Highways being state-wide in their nature should be built and maintained primarily by state funds. If more of the support for these functions came from the state rather than from the local districts, it would relieve many poor rural sections from unduly heavy taxes, and distribute the tax burden more evenly as between city people and country people and between farmers of different districts.

Tapping Other Sources of Revenue. In most states there have developed in the last twenty-five years new industries and new occupations. There has also been an increase in the number of persons engaged in professional and personal services. These new industries and occupations and the larger number of persons in the professional and personal service classes make available new sources of revenue that may be tapped to supplement present taxes and help to relieve farmers of some of their heavy tax burdens.[12] State income taxes have been adopted in fourteen states in order to secure more revenue and to lighten the burden on property. In states which do not have income taxes, farmers may find some relief by helping secure the enactment of income tax laws. The gasoline tax is proving to be a substantial source of revenue in most of the states. License and franchise taxes on individuals and corporations are other sources of additional revenues. The inheritance tax may be more widely em-

[12] *Agriculture Yearbook,* 1924, pp. 281-284.

ployed and the rates increased, so that it will yield more revenue. With the increased consumption of luxuries it may be possible to secure considerable amounts of public revenues from consumption taxes on luxuries. To the extent that these new sources of revenue can be tapped, farm property can be relieved of heavy taxation. Many persons with good incomes and with little property, who are quite able to help support state and local governments, now contribute little or nothing in the way of taxes.

Relief Through Property Classification. In some states relief from heavy taxes on farm property has been sought in the classification of property and the levying of different rates of taxation on different kinds of property.[13] Certain classes of property, particularly some kinds of tangible and intangible personal property, escape taxation altogether, because they are not listed by owners. A greater amount of these properties is listed for taxation if the rates are low. The additional revenues secured by this means relieve somewhat the taxation of real and other tangible property, particularly farm property. The theoretical basis for classification is, that different kinds of property vary in earning power and in mobility, and this condition makes equitable assessments impossible. The three classes of property usually made under property classification tax systems are: (1) real estate, (2) tangible personal property, and (3) intangible personal property. In some states, however, six to ten different classes of property are recognized. While classification of property and levying of different rates on different classes of property may bring some relief to farmers, by securing additional revenues, farmers should not expect great relief from this source. In those states in which classifica-

[13] Lutz, *Public Finance*, pp. 352-360.

tion of property has been tried out, and lower tax rates have been levied on intangible and certain kinds of personal, tangible property, the results do not bear out the claim that the classification of property and the levying of different rates thereon greatly lighten the burden of taxation on real estate.

Improved Appraisal of Farm Land. From 75 to 90 per cent of farm property is real estate, with farm land constituting the chief part thereof. It is quite important, therefore, that farm lands be efficiently and equitably appraised for taxation. Land appraisal has been one of the weak spots in the administration of the general property tax. There are several necessary steps in the better appraisal of farm lands.[14] (1) All farm lands should be carefully classified by persons who know the characteristics of farm land. Such classification is the first step in the fair valuation of farm lands. (2) A large amount of data on the actual values of farm lands needs to be gathered and placed at the disposal of land appraisers to assist them in placing correct values on these lands. (3) Skilled assessors are needed to work at the task of assessment throughout the year. Various kinds of data need to be compiled, and different checks need to be made. Under these conditions, assessors would become more expert and accurate in their assessing. (4) The central state tax commission or commissioner should be given authority and necessary staff equipment to make standardized and uniform methods of assessment in the counties or local tax districts. (5) Rental value of land should be given more weight in determining the value of land.

[14] *Ibid.*, pp. 361-373.

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CHAPTER XVIII

AGRICULTURE AND PRICE MOVEMENTS

A. Price Movements and Their Effect on Agriculture

Price Movements. Prices of farm products and other products are rarely stable for any length of time. They rise and fall in response to various economic forces. These price fluctuations may be considered either from a short-time point of view, as year-to year fluctuations; or they may be considered from a long-time point of view, as trends lasting for five- or ten-year periods, or longer.

Index Numbers. Index numbers are now widely used by economists to measure price fluctuations and movements. An index number is a number that is used to express the relative change or difference in a group of related and changing numbers. In the study of price fluctuations index numbers are used in series, to express price relations of commodities at stated intervals over certain periods of time. A series of index numbers expressing price relations is constructed as follows: first, the price of a commodity for a certain year, or the average price of the commodity for several years, is assigned a numerical value of 100. The price of the commodity for the year or for the several years taken is called the original base price. Other index numbers in the series for following years or periods are obtained by multiplying the price for the year or period by 100 and dividing the product by the original base price. Thus the index numbers of the prices paid to producers for cotton from 1914 to 1923 was as follows:[1]

Year	*Average Price Per Pound Cents*	*Index Number or Relative Price*
1910-1914	12.4	100
1915	8.9	72
1916	13.5	109
1917	21.5	173
1918	29.5	238
1919	29.6	239
1920	32.1	259
1921	12.3	100
1922	18.9	152
1923	26.7	215

In the same way index numbers, or relative prices, can be found for all farm products for any period of time over which average prices are known. The base period taken for making calculations is arbitrarily selected. Prior to the World War the Bureau of Labor Statistics took the average of prices for the period 1890-1899 as the base. Since the World War the base period most commonly used is the period 1910-1914, or the year 1913. The year or period taken for the base depends on the periods for which comparisons are wanted.

Composite Price Indexes. It is commonly desired to express the price index of a group of commodities or all commodities in a single number or series. Thus we say the price index for all farm commodities in September, 1927, calculated from the average base price of 1910-1914, was 141. This index was obtained by taking the average prices for all farm products for the two periods of comparison. By grouping various commodities in this way and finding the price indexes for the groups of commodities, it is possible to compare the relative prices of different groups of commodities. For instance, the price indexes for different groups of commodities, in September, 1927, with the years 1910-1914 as the base period, were as follows:[2]

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[1] *The Agricultural Situation*, monthly bulletin of the Bureau of Agricultural Economics.

Farm products	153
Food, etc.	149
Cloths and clothing	182
Fuel and lighting	184
Metal and metal products	127
Building materials	164
Chemicals, etc.	121
House-furnishing goods	163
All commodities	152

Relative Purchasing Power of Commodities. Because the prices of individual commodities and different groups of commodities do not rise and fall at the same time and at the same rate, the relative purchasing power of individual commodities and groups of commodities in terms of other individual commodities, groups of commodities, and all commodities, vary from time to time, as compared with their purchasing power in terms of one another for a selected year or period. The method of getting the index of the relative purchasing power of any commodity or group of commodities in terms of other commodities or groups of commodities is to multiply the index of the commodity or group of commodities at a given period by 100 and divide the product by the index of the commodity or group of commodities in question for the same period. Thus if the September, 1927, index for cotton was 181 and the index for building materials 164, derived from the base period of 1910-1914, then the purchasing power of cotton in terms of building materials in September, 1927, was $\frac{181 \times 100}{164}$, or 110. Table 14 from *The Agricultural Situation*, November, 1927, shows the relative purchasing power of different farm commodities in terms of groups of other commodities and all commodities in September, 1927, as compared with purchasing power for the period 1909-1914.

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[2] *Ibid.*

TABLE 14. RELATIVE PURCHASING POWER OF FARM PRODUCTS (AT SEPTEMBER, 1927, FARM PRICES: AUGUST, 1909–JULY, 1914 = 100)

The Agricultural Situation, November, 1927

	Of a Unit of—									
In Terms of—	*Cotton*	*Corn*	*Wheat*	*Hay*	*Potatoes*	*Beef Cattle*	*Hogs*	*Eggs*	*Butter*	*Wool*
All commodities ..	119	98	89	58	101	94	89	90	108	115
Clothes, etc.	100	81	74	49	85	78	74	75	90	96
Fuel, etc	99	81	73	48	84	78	73	74	89	95
Metals, etc.	142	117	106	70	121	112	106	107	128	138
Building Materials.	111	90	82	54	94	87	82	83	100	107
House-furnishing goods	111	91	82	54	94	87	83	84	100	107

Recent Trend of Prices and Purchasing Power of Farm Products. Table 15, also taken from *The Agricultural Situation*, of November, 1927, shows the general trend of prices and the purchasing power of farm products from 1910 to 1926, calculated on the 5-year base from 1909-1914.

From this table it will be seen that the relative purchasing power of farm products in terms of non-agricultural products at wholesale prices, as compared with pre-war values, has been as high as 107 and as low as 69. In only three years since the outbreak of the World War has the purchasing power of all the farmers of the United States been as great in terms of non-agricultural products as it was for the base period, 1909-1914, these three years being 1914, 1918, and 1919, when farm purchasing power somewhat exceeded the five-year average of the base period. In 1921 the purchasing power of farmers in terms

TABLE 15. GENERAL TREND OF FARM PRICES AND PURCHASING POWER OF FARM PRODUCTS (ON 5-YEAR BASE, AUGUST, 1909–JULY, 1914 = 100)

The Agricultural Situation, November, 1927

	Index Numbers of Farm Prices								
Year	*Grains*	*Fruits and Vegetables*	*Meat Animals*	*Dairy Products*	*Poultry Products*	*Cotton and Cottonseed*	*All Groups, 30 Items*	*Wholesale Prices of Non-Agricultural Commodities* *	*Relative Purchasing Power of Farmer's Product* †
1910	104	91	103	100	104	113	103	102	101
1911	96	106	87	97	91	101	95	96	99
1912	106	110	95	103	101	87	99	100	99
1913	92	92	108	100	101	97	100	105	95
1914	103	100	112	100	105	85	102	97	105
1915	120	83	104	98	103	78	100	101	99
1916	126	123	120	102	116	119	117	138	85
1917	217	202	173	125	157	187	176	182	97
1918	226	162	202	152	185	245	200	188	107
1919	231	189	206	173	206	247	209	199	105
1920	231	249	173	188	222	248	205	241	85
1921	112	148	108	148	161	101	116	167	69
1922	105	152	113	134	139	156	124	168	74
1923	114	136	106	148	145	216	135	171	79
1924	129	124	109	134	147	211	134	162	83
1925	156	160	139	137	161	177	147	165	89
1926	129	189	146	136	156	122	136	161	85

* Computed by Bureau of Labor Statistics from wholesale price of all commodities except those from United States farms. 1910-1914 = 100.

† The value of a unit of the farmer's product in exchange for non-agricultural products at wholesale prices, compared with pre-war values. Obtained by dividing index of all groups (30 items) by the index of the wholesale prices of non-agricultural products.

of non-agricultural products was only 69 per cent of the purchasing power of farmers from 1909 to 1914. The percentage had risen to 85 per cent in 1926. These indexes show that farmers as a whole in the United States from 1920 to 1926 were able to buy with their products much less of non-agricultural products than they could buy with their products from 1909 to 1914. In other words farmers suffered a considerable loss in their buying power, from 15 to 30 per cent a year, during the period from 1920 to 1926.

The Secular Trend of Prices. By secular trend of prices is meant the long-time movement of prices, over decades, or a quarter of a century, or a century. Index numbers of wholesale prices in the United States are available for more than a century, so that the secular trend of prices for the last century can be fairly well charted. Three kinds of price movements have taken place in the United States since 1880: (1) very sharp rises and falls in prices during and after wars; (2) slowly declining prices; and (3) slowly rising prices. In a general way farm prices rose and fell with wholesale commodity prices during these periods of changing prices.

It is now an almost universally accepted theory that the most important cause of the rise and fall of general commodity prices is expansion and contraction of the currency. An increase in the currency or circulating money medium of a country causes a rise in prices, provided the volume of goods produced and exchanged remain about the same; likewise a decrease in the amount of currency causes a decline in prices, if the volume of production and exchange remain the same. In other words prices are a ratio between the amount of currency and the volume of production and exchange. Currency here is used in a very broad sense as comprehending both money and bank deposits subject to checking, or the entire purchasing power of a people. Also allowance must be made for the velocity with which money and checks circulate. Modern banking and rapid communication cause the supply of currency to circulate rapidly. Rapid circulation enables one dollar to do the work of several dollars under slow circulation.

Professor Irving Fisher has expressed this relation in the formula $P = \frac{MV + M'V'}{T}$. In this formula P is price, M the volume of money, V the velocity of money in circulation, M′ the volume of checking and credit instruments used as circulating media, V′ the velocity of the paper circulating medium, and T the total quantity, or sum total of "units," of goods sold. From this formula it is seen that an increase either in the volume of money, M, or instruments used for money, M′, or rapidity of circulation of either V or V′, or in volume of T, will have an effect upon prices.[3]

Inflation of the currency, either in M or M′, is the most important cause of a general rise in the price level. The sharp rises in prices during war periods have been due to a great increase in the volume of circulating medium. This was true for the War of 1812, the Civil War, and the World War. The expansion of the currency during these war periods was the cause of the sharp rises in prices.

Price Movements of the World War Period. The World War period, from 1914 to 1920, was a period of unusual currency inflation and high prices. All governments engaged in the war increased their currency greatly, some of them so much that money became practically worthless. In a war crisis governments have large expenses to meet. They cannot secure sufficient revenues by taxation. They must borrow great sums of money and thus expand credit operations, or they must issue fiat paper money. Sometimes they do both. The effect of the fiscal policies during war times is almost always to inflate the currency greatly. This inflation causes a depreciation in the money unit and a rise in the prices of all commodities. Inflation may be further increased by banks and financial institutions following a too liberal credit policy, loaning money to private individuals at a low rate of interest. This granting of large amounts of credit increases the purchasing power of the community and has the same general effect as an increase in the supply of money. While the currency was not inflated nearly so much in the United States during the World War period as in some of the other countries, the inflation was sufficiently large to more than double the price level. Table 16 below, taken from Edie's *Economics,* brings out some of the significant facts about inflation in the United States during the World War period. It is seen from this table that from 1913 to 1920, the general price index increased from 100 to 226, while the index of money in circulation increased from 100 to 178, the index

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[3] *Elementary Principles of Economics,* Chs. VIII and IX.

TABLE 16. INFLATION IN THE UNITED STATES,*
1913-1920

(Edie, *Economics: Principles and Problems,*
T. Y. Crowell Company)

		Money in Circulation		*Bank Deposits*		
Year	*Price Index, Bureau of Labor Statistics*	*(Amount in Millions)*	*Index Number*	*(Amount in Millions)*	*Index Number*	*Physical Volume of Business (Index Number)*
1913	100	$3,390	100	$12,678	100	100
1914	98	3,505	103	13,430	106	99
1915	101	3,682	109	14,411	114	104
1916	127	4,159	123	17,840	141	109
1917	177	4,914	145	21,273	168	112
1918	194	5,579	165	23,771	188	113
1919	206	5,793	171	27,928	220	106
1920	226	6,060	178	30,300	239	111

* See E. W. Kemmerer, *High Prices and Deflation,* pp. 7, 12, 27, and George R. Davis, *Introduction to Economic Statistics,* pp. 88, 90, 99.

of bank deposits from 100 to 239, and index of physical volume of business from 100 to 111. The important facts to be noted here are that while the physical volume of business increased approximately 11 per cent, money in circulation increased 78 per cent, bank deposits 139 per cent, and prices 126 per cent. There was a close correspondence between the increases in the volume of money and credit and in the wholesale price level. There is no doubt that the chief cause of the rise of prices during the World War period was money and credit inflation.

The Period of Deflation. A period of inflation is almost inevitably followed by a period of deflation. Extravagant borrowing exhausts bank reserves. Cash reserve ratios in the banks are reduced. They tend to fall below the danger point. Bankers see dangers ahead and begin to curtail loans. Dealers and speculators who have been borrowing from banks to purchase and hold goods, which they expected to sell at higher prices and make profits, find their loans called and checked. They unload their goods. Prices fall. Everybody with goods on hand becomes anxious to sell at once lest he be caught with a large supply of goods on hand that he cannot sell at any price. Consumers believing that prices will go lower postpone buying. This causes prices to go still lower. A general decline in prices takes place until prices again become relatively stable at the old or a new price level.

Following the inflation period of the World War, deflation in the United States set in during the latter half of 1920. There was a sudden drop in the index of wholesale prices of non-agricultural commodities from 241 in 1920 to 167 in 1921, and a drop in the index of wholesale prices of farm products from 205 in 1920 to 116 in 1921. From 1921 to 1926 the index of wholesale prices of non-agricultural products ranged from 167 to 161 standing at the latter figure in 1926, while during the same period the index of wholesale prices of agricultural products gradually rose and stood at 136 in 1926.

Other Causes of the Agricultural Depression. Currency deflation was not the only cause of the drop in farm prices after 1920. During the inflation period, when the prices of farm products rose to a very high level and there was an unusual demand for farm products in Europe, a considerable expansion of the agricultural area in the United States took place. Farmers bought machinery and live stock to take care of their increased acreages. When the War closed and European soldiers returned to their farms and the borrowing nations exhausted their credit facilities for purchasing, the demand for our agricultural products fell off. Heavily indebted for land and equipment, required to pay heavy taxes, and confronted with a fall in prices, the only recourse the individual farmer had was to continue to produce or even to increase his production, in order to meet his obligations. Though the general price situation demanded that farmers restrict their operations, each individual farmer was confronted with a practical problem of making as large an income as he could in order to pay his debts and expenses. The result was, that though the prices of agricultural products were very low, the expanded agricultural area contracted very slowly. Thus the falling demand for agricultural products and the slowness with which contraction of the expanded area took place caused farm prices to drop to, and remain at, a very low level.

Effects of Inflation and Deflation on the Farmer. During the period of inflation and high prices many farmers expanded their business. Money was easy, prices high, and profits good. Many farmers believed that this condition of agriculture would prevail indefinitely. They bought land, new machinery, and other farm equipment, many of them incurring a big indebtedness. They contracted debts and expected to repay on the basis of the high prices they were then receiving for farm products. Many young men and farmers who had always been tenants purchased farms for themselves and made payments on them, some of them sinking the earnings of many years in a farm. During the boom and inflation period, taxes, wages, and other farm expenditures greatly increased.

When deflation came and the prices of farm products were almost halved, these farmers who had gone into debt for land and farm equipment found themselves unable to meet their obligations. Taxes, freight rates, farm wages, and other farm expenses remained high. While the prices of farm products dropped almost to the pre-war level, taxes remained more than 100 per cent higher than in 1914; wages, 75 per cent higher, and practically all the products farmers buy, from 25 to 75 per cent higher. With this unbalanced condition of prices, it required considerably more of all farm products to purchase non-agricultural products and meet necessary farm expenses than it did before the War. As a result many farmers who went into debt during the inflation period went into bankruptcy as deflation advanced. Reports gathered by the United States Department of Agriculture from 94,000 farmers in western states showed that from January, 1920, to March, 1923, 4 per cent of farm owners lost their farms through foreclosure or bankruptcy, 4.5 per cent turned their farms over to creditors without any legal proceedings, and 15 per cent who still held their farms were really in a state of bankruptcy. Without question the inflation and deflation periods had serious effects for a large number of farmers.

B. Business Cycles and Agriculture

Agriculture and Business Cycles. From 1918 to 1925, as has already been shown, the farmers of the United States experienced great changes in the prices of agricultural products. Prices dropped from a very high level in 1920 to a very low level in 1922. From 1920 to 1925 practically all farm products were affected by a general fall in the price level. This fall in the price level of agricultural products was a phase of the fall in the price level of all products. Older farmers also remember other periods when the price level of farm products and other products fell to a low level, and periods when there was a general rise in the price level. These rises and falls in price levels are known as business cycles. It is the purpose of this section of this chapter to explain the general nature of business cycles and how agriculture is affected by them.

Meaning of the Business Cycle. When business as a whole, including agriculture, is studied over a long period of time it is found that it is subject to periods of prosperity and depression. Rarely does business remain stable for a long period of time. It passes through a rather constant series of changes, which constitute a cycle. This cycle is from prosperity to crisis, from crisis to depression, from depression to recovery, and from recovery back to prosperity.[4] Prices of products rise and fall through the different phases of the cycle. Business men and farmers enjoy periods of prosperity and suffer periods of depression. There is an ebb and flow of good times and hard times. Different classes of people are affected differently in their economic position during different phases of the business cycle.

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[4] For a lucid explanation of business cycles see Boucke's *Principles of Economics,* Vol. II, Chs. XIII-XV.

Recurrence of Business Cycles. Since 1810 American business has experienced sixteen business cycles. Though the cycles have not occurred with exact regularity, each cycle requiring the same length of time to run its course and the same length of time intervening between cycles, some students of business cycles have concluded that the course of a cycle is about ten years. Some are longer and some are shorter. Again, though no two cycles are exactly alike, they run fairly true to type. They have certain traits in common, follow similar courses, and have the same fundamental economic causes. However, it must not be concluded that all business cycles run exactly the same course and occur with exact regularity. Each cycle has its own peculiarities; each must be studied separately to be thoroughly understood.

Phases of the Business Cycle. As has already been stated, cycles usually run through four phases: prosperity, crisis, depression, and recovery. During the period of prosperity business is running at full force, consumers are buying large amounts, and profits are high. Savings are made. The amount of money is increased. The currency is inflated. Much business is done on credit. Interest rates are low. Prices rise. Business seems to be in a prosperous condition. On the basis of expected continuance of prosperity and high prices, all lines of business are expanded. Extravagance and over-confidence are engendered.

Next a crisis occurs. The increased demands for credit exhausts bank reserves. Credit must be curtailed. Loans which have bounded ahead of cash assets are called in. Interest rates go up. Debtors are asked to pay up. Consumers have stocked themselves heavily with goods. Merchants and manufacturers find themselves with a surplus of products on hand. Manufacture and sales are curtailed. Producers of machinery cannot sell their goods. Business men and bankers lose confidence. Business slows down. A crisis has arrived. Bankers demand liquidation. A crash comes. Prices fall.

Then follows a period of depression. Pessimism has set in. The physical production of goods falls off. Business is at a low ebb. Manufacturing plants run only part time. There is much unemployment. Extravagance and waste are eliminated. Economies of all kinds are effected. Consumers buy as little as possible. Hard times prevail throughout the whole field of business. Prices are low. There is no expansion of business.

But this period of economy and depression sets forces to work which bring in the fourth period, the period of recovery. A few of the keener and shrewder business men sense that the period of depression has come to an end. They begin to expand their businesses. The low interest rates, abundance of capital, cheap materials, and cheap labor are incentives for them to expand production. Their activities create demands for various products turned out by other industries. Employment picks up. Consumers begin to buy more. Old stocks of goods are exhausted. New stocks are needed. Prices rise. Banks are ready to lend their surplus funds for further expansion of industry. Business is going through the recovery stage, soon to be followed by the prosperity stage again.

Effects of the Business Cycle upon Agriculture.

We know that farm prices rise and fall. We know that farmers experience periods of prosperity, financial crises, and depressions. We know that during periods of depression many farmers who are in debt lose their farms by foreclosure, that many farmers give up farming and enter other occupations, that those farmers who remain on their farms find their incomes greatly reduced, and that farming operations are curtailed all around. It remains for us to inquire to what extent the general business cycle affects agriculture, and to what extent there are cycles within the agricultural industry alone. Fortunately there has lately appeared a careful study, Engberg's *Industrial Prosperity and Agriculture,* showing the relation of general business prosperity to the economic conditions of agriculture. The following paragraphs of this section are largely a summary of the important conclusions of Engberg's monograph.

Agricultural Production and Prices. Since price movements are the best indexes of the business cycle, it is important to state briefly the primary factors affecting the prices of agricultural products. Factors other than the general business cycle influencing the prices of agricultural products must first be given their proper weight before consideration is given to the effects of the general business cycle on agriculture. Price fluctuations are quite common among agricultural products. Engberg in his study concludes that the most important cause of frequent price fluctuations among agricultural products is the volume of production. He shows rather conclusively that when volume increases prices decrease and when volume decreases prices increase, and that volume of production is the biggest factor influencing price fluctuations. Factors which affect production are climate, pests, knowledge of agricultural processes, and economic organization of production and marketing.

The prices of farm products are also affected by the demand for them on the part of consumers. Since most farm products are consumers' goods the demand for them is less influenced by changes in business activity than is the demand for producers goods. People must consume about the same amount of food at all times regardless of prices. So the demand for many farm products is quite inelastic. The incomes of salaried and professional people do not change much with the rise and fall of prices during the different periods of the business cycle, and therefore their purchasing power and demand for farm products remain fairly constant.

The conclusions of Engberg's study are: (1) the influence of the general business cycle on the prices of farm products is considerably less than the influence of supply and demand, and (2), in general, business cycles in themselves have little effect on agricultural prices. However, this does not mean that inflation of the currency, which causes a rise in the prices of non-agricultural commodities does not also cause a rise in the prices of agricultural commodities. It simply means that business prosperity does not necessarily cause agricultural prosperity.

Effect of Business Cycles on Farm Expenses. In their farming operations farmers must incur different kinds of expenses. How do the prices of the things that farmers must buy vary with different phases of the business cycle? One of the biggest farm expenses is farm labor. The price paid for farm labor is affected by the supply of farm labor. During periods of general business prosperity farm labor is scarce and therefore slightly higher in price, particularly in those sections close to manufacturing centers. On the other hand, changes in the demand for farm labor are largely independent of business cycles, being influenced chiefly by the acreage and yield of crops planted and harvested. As to tax payments they do not show any clear-cut response to business cycles. Cash rentals show the influence of business cycles but little. The cost of farm credit reflects somewhat the conditions of the money market and the phases of the business cycles, though to no marked degree. As to the costs of farm machinery the conclusion is that they are influenced more by the purchasing power of farmers than by the cyclical rise and fall of prices in the manufacturing industry at large, as reflected by the general business cycle. The price of fertilizer seems not to be affected by the general business cycle. The general conclusion of Engberg's study is that business cycles play only a minor rôle in affecting the price of those things that constitute the chief farm expenses. Possible reasons for this small influence are, that retail dealers try to avoid price changes and absorb changes in wholesale prices, that purchasing power of farmers outweighs other factors as causes of changes, and that custom, foreign conditions, and the volume of agricultural production are important price-making factors.

Business Cycles and the Price of Cotton. Statistical analysis shows that the biggest factor affecting the price of cotton is the yearly supply grown in the United States. Another important factor affecting the price of cotton is the world carry-over from one year to the next. Data available on the sales of cotton drygoods show a moderate responsiveness of the price of cotton goods to the general business cycle. The demand for cotton goods is somewhat elastic, the amount of purchases falling off with depressed economic conditions. Again the industrial uses of cotton fall off during periods of industrial depression and pick up during periods of prosperity. Cotton mill activity is greater during periods of business prosperity and the demand for raw cotton more brisk. On the other hand, the demand for cotton in foreign countries does not fluctuate with the domestic demand. Since about one-half of our cotton is exported, the foreign demand tends to overcome the disturbing domestic cyclical influences.

Business Cycles and the Corn-Hog Industry. Since corn makes up over two-thirds of the cost in pork production, there is usually a close relation between the prices of corn and of hogs. The chief outlet for corn is in the feeding and fattening of hogs. The price of corn, therefore, is determined primarily by the price of hogs, and vice versa. The influence of the general business cycle on the production of corn is almost negligible. The big factor determining the price of corn is the size of the crop. The size of the corn crop determines the number of hogs raised and the weight of the hogs fattened for the market. Large crops of corn and therefore large supplies of pork tend to depress pork prices, while small crops of corn, and therefore small supplies of pork, tend to boost pork prices. This relationship between the price of corn and the price of hogs results in hog-production cycles.

Since meat is one of the expensive items in the general diet of the people a decline in the purchasing power of consumers causes a decrease in its consumption. However, since pork is probably the most economical meat consumed the demand for pork is more stable than the demand for other meats. When all the facts are considered there is a correspondence between cycles of hog prices and general business cycles, but the influence of the general business cycle is very slight, the volume of pork production being by far the most significant factor influencing the price of pork.

Business Cycles and the Price of Wheat. Wheat is the most universal breadstuff of Western civilization. The United States exports from 20 to 25 per cent of the crop she produces. The prices of wheat are determined in a world market. The chief factors affecting the supply of wheat, and therefore the price, are climatic conditions. The demand of consumers for wheat products is very inelastic, remaining very much the same during periods of prosperity and depression. The facts show only a very slight influence of the general business cycle on the price of wheat. This conclusion is to be expected, since the price of wheat is determined in a world market, and since the demand for wheat is very inelastic.

Conclusions. From the survey just given the main conclusion is that business cycles have little effect on agriculture. Prosperous and depressed conditions in agriculture show a close correlation to volume of production. The demand for food and clothing material is very constant and is affected only slightly by changes in general business conditions. However, the minor influences of the business cycle on agriculture should be noted. During prosperous periods farmers receive somewhat better prices for their products than during periods of depression. On the other hand, farmers have to pay higher prices for some of the things they buy during a period of prosperity and rising prices, and the payment of these higher prices reduces farm earnings.

General business prosperity does not necessarily bring farm prosperity. In 1922-1923 and 1925-1926 business was in a very prosperous state, but agriculture remained in a state of depression. Neither does general business depression bring depression to agriculture. In the panic years of 1907 and 1908, while general business was in a state of depression, farming was in a very prosperous condition.

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CHAPTER XIX

FARMERS' MOVEMENTS

A. Groups and Government

Relation of Government to Economy. The government of a people always has an important relation to their economy. The enforcement of contracts, protection of property, the regulation of business for the public good, the promotion and encouragement of industry are essential governmental functions in a highly developed economy. Governments render many services to their citizens that have a distinct economic advantage, either direct or indirect. Of course, people pay for these services either in part or whole through taxes. Since the government exercises great power over a people, a power that can wield a tremendous influence over their economic conditions and affect them advantageously or disadvantageously, the individuals of different occupations usually strive through combined efforts to gain control of, or to influence in their favor, whatever government is in power. The really vital issues in politics are usually economic in nature.

Economic Occupational Struggles. In our complex society of different occupations and democratic suffrage, there are many struggles between occupational classes to gain the favors of, and control of, government. The struggles between the occupational classes usually turn on economic issues. Each class tries to secure through the government its own peculiar economic advantages. Conflicts of interest follow. These conflicts are fought out through political parties, legislative blocs, and group pressures of various sorts. As the individuals of each class become more class conscious, understand their economic position in relation to other classes and feel keenly about it, the economic struggle sharpens. During periods of unfavorable economic conditions for any class, the feeling of class consciousness becomes accentuated. Individuals in the class combine for joint action in their own behalf and against other classes. Quite often this joint action is expressed through political movements. Attempts are made by classes to get control of the government and to bring about legislation favorable to their economic interests. In the United States the organized struggles of farmers to secure economic and other advantages through government have been called farmers' movements.

Agrarian Parties. In countries of universal suffrage it is natural that farmers join together in parties, blocs, and movements to secure legislation favorable to their economic interests. In practically all the European countries, where manhood suffrage exists, farmers have grouped themselves in parties or blocs to promote and protect their interests. The old Whig Party of England was largely composed of and led by country squires, who represented the interests of the English land owners. Agrarian parties and blocs have always occupied a prominent place in German, French, and Italian national legislatures. Since the World War, agrarian parties have ruled the small countries of Eastern Europe. In the European countries, where occupational classes are more definitely fixed than in the United States, agrarian parties and blocs are more thoroughly and more permanently organized. Up to the present no definite and permanent agrarian party has developed in the United States. However, there have been a number of political movements in the United States in which a large number of farmers have joined together to secure legislation favorable to their interests. A few times in our history the farmers have gotten control of one of the great political parties, or they have taken the lead in organizing a minor political party. But in the United States there are so many different types of agriculture, that it has always been difficult for large numbers of farmers to unite for any length of time in a single cause.

When the Farmer Is Politically Active. Farmers, like the other less well-organized groups in our society, take a keen and active part in politics only when their economic conditions are unfavorable. So long as they are prosperous they are content to let lawyers and business men run the government. Farmers simply follow these two classes and ratify what they propose. However, when economic conditions become bad for farmers, when they receive very low prices for their products, or feel that they are being compelled to pay unusually high prices for the products they must buy, then they are ready to try to remedy the situation by political methods.

B. Farmers' Movements in the United States[1]

The Nature of Farmers' Movements. Farmers' movements in the United States began immediately after the founding of the national government and have occurred at intermittent periods throughout our entire history. The movements have always had their origins in some kind of economic grievances of farmers or in the demand of farmers for some kind of economic advantage. Sometimes these movements have assumed the form of a revolt. New political parties have been formed, parties in power have been turned out, and other parties placed in power. The aim of the organized movement is to effect through legislation and government a cure for the evils suffered. The tactics used to gain the ends in view have been the election of farmer representatives or farmer sympathizers to office, the throwing of political support to politicians favorable to the farmers' causes, effecting compromises with other classes, maintaining lobbies to work for farm legislation, and carrying on organized campaigns among farmers. Low prices of farm products, hostility to corporations and middlemen, the felt need for improved marketing and credit facilities, and demands for tariff reform have been the chief economic causes of farmers' movements. In the following paragraphs the important farmer movements that have taken place in the United States will be briefly sketched.

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[1] Professor Hibbard in his, *Marketing Agricultural Products*, Part II, has given us the best summary of farmers' movements in the United States. The source of most of this section of this chapter is Professor Hibbard's lectures and Part II of his book.

Jeffersonian Agrarianism. Thomas Jefferson was the first leader of an agrarian movement in the United States.[2] In the very beginnings of our national history a cleavage developed between two classes of different economic interests that was soon expressed in state and national politics. In the towns and cities of the Northeast a small capitalist class had grown up whose primary economic interest lay in security holdings, lending money, manufacturing, and commerce. This class had financed the Revolutionary War and held most of the government securities. They were also money lenders to the frontier farmers. They were beginning to manufacture and to carry on an extensive trade with Europe. Naturally this financial class wished a strong national government, one that would make them secure in their bonds, regulate and stabilize commerce, and promote foreign trade. On the other hand, the farming class living along the seaboard in the South, and particularly in the back country along the Appalachian Mountains, had different economic interests. They were debtors, wanted cheap land and cheap imported products, and were opposed to taxes on imports and high taxes on excise goods. They held no bonds, favored expansion into the Indian country, and wanted little regulation by the national government.

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[2] Beard, *Economic Foundations of Jeffersonian Democracy,* Chs. XII-XIV.

Jefferson, himself a land owner and close to the soil, became the leader of this great class of agrarians in opposition to Hamilton and the Federalists. In 1800 Jefferson was elected President by the support of this class. Jefferson believed that widely diffused land ownership made for the best citizenship. He favored agricultural interests rather than urban interests, and believed that we should rely on Europe for manufactured commodities. In making the great Louisiana Purchase he thought he was serving the agrarian interests and the best welfare of the nation by postponing indefinitely our becoming a manufacturing nation.

Farmers of the New West. The next agrarian movement came from across the Appalachian Mountains, out of the frontier conditions of the eastern half of the Mississippi Valley.[3] It assumed its most definite expression in the election of Andrew Jackson and William Henry Harrison to the Presidency. Each was a typical frontiersman. From 1810 to 1840 thousands of immigrants had poured through the passes of the Appalachian Mountains into the rich valleys of the Ohio and the Mississippi and their tributaries. These frontier farmers were unlettered but passionately democratic. To them one man was as good as another. Their representatives became strong and aggressive in national politics. They demanded universal suffrage, new roads to the East, and canals. Under Jackson they led an assault on the United States Bank which they considered the tool of eastern capitalists. They wanted cheap money. Under the leadership of Henry Clay these Westerners demanded a tariff on manufactured products because it was thought that such a tariff would build up a manufacturing population in the East which would buy the products of their farms. They demanded the rapid opening up of public lands, sale of lands on easy terms to settlers, and the distribution of the proceeds to the states. Benton of Missouri demanded classification of public lands and their rapid distribution to settlers on easy terms.

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[3] Turner, *The Frontier in American History,* Ch. I.

The Last Slavery Movement. The chief farmer movement from 1840 to 1860 centered around the slavery question.[4] With the invention of the cotton gin and the opening of the trans-Mississippi West, the southern slave owners, desiring the expansion of the slavery system into the new territory, became assertive and aggressive. By 1830 cotton had become king in the South, and tobacco, rice, and sugar were powerful allies. Southerners wanted to carry slaves with them into all sections of the new West. Slave owners were the leaders in Southern politics. A group of militant Southern statesmen arose in Congress who pressed the agricultural interests of the South. All the professional classes were brought over to

[4] Dodd, *The Cotton Kingdom.*

the support of the institution of slavery. The whole farming population of the South became solidified in support of slavery and its extension into the trans-Mississippi West. In addition, the South, being exporter and importer, wanted free trade. It was the aggressive attitude of these plantation representatives in Congress, defending the interests of the plantation owners, that helped bring on the Civil War.

The Grange. The next important farmer movement had its beginning after 1870. It grew out of economic conditions following the rapid agricultural expansion after the Civil War. The grain-growing area was expanded tremendously from 1870 to 1880. The agricultural population of the western states increased. Railroads were built out into the new country. The per capita production of wheat increased from 5.6 bushels in 1860 to 9.2 in 1880, almost doubling. Prices fell. The breaking plow, the self-binder, and the threshing-machine greatly increased the grain farmers' productivity. The markets were glutted. Railroads could not handle all the grain produced. In the South farmers were in a state of depression following the Civil War. Naturally times were ripe for a political movement among farmers. The Grange was started by O. H. Kelly, a Boston Yankee and a pioneer in Minnesota, who, in the employment of the United States Department of Agriculture, had been sent to the South to study the condition of farmers. He believed farmers needed a great organization to help them solve their problems. The Grange grew by leaps and bounds in all parts of the country.[5]

Although founded for social and economic activities, it soon entered the political field. It soon developed a comprehensive economic and political program, including regulation of railroads and elevators, cooperative buying and selling, manufacture of farm machinery in some states, control of markets, setting up of state and county purchasing agents and shipping associations. In politics the Grangers sought control of elections. They brought about regulation of railroad rates and elevators, influenced tax legislation, took an interest in the money question, promoted state and national departments of agriculture, postal savings banks, parcel post, rural free delivery, pure food laws, and rural credit laws. The Grange reached a membership of over 500,000 in 1880 and established locals in practically every state. It began to decline after 1880 and entered upon a period of quiescence by 1890. Since that time the Grange has taken on a new lease of life and today it has a membership of over 700,000, being strong in New York, Pennsylvania, Ohio, Kansas, Nebraska, and on the Pacific Coast. The Grange has been the most successful farm organization. While still carrying on various economic activities, and working through politics, its functions today are perhaps more social and educational than economic and political.

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[5] Hibbard, *Marketing Agricultural Products,* Chs. XVII and XVIII.

The Farmers' Alliance and the Populists.[6] A movement known as the Farmers' Alliance began in Texas in 1875. As the movement spread and became national in scope, it centered its attention chiefly on economic conditions to be remedied by legislation—prices of farm products, monopolies, economic oppression, and the currency. It became distinctly political in its activities, seeking to accomplish its reforms through political pressure. The Alliance followed closely the methods of the Grangers, establishing local stores, state purchasing agents, elevators, cooperative buying and selling organizations. In politics the Alliance united with the Knights of Labor and in its platforms of 1889 and 1890 demanded: (1) abolition of national banks, the establishment of government sub-treasuries to loan money to farmers at 2 per cent interest, and a circulating medium of at least $50 per capita; (2) prohibition of future trading in farm products; (3) and free and unlimited coinage of silver. At its height the Alliance perhaps reached a membership of a million. In 1890 and 1891 the Alliance scored notable victories as, for instance, the election of Tillman as governor of South Carolina, and Peffer as U. S. senator from Kansas. In 1892 the Alliance was merged into the Populist Party and General James B. Weaver of Iowa, the presidential nominee, received a popular vote of over a million, and an electoral vote of twenty-two. In 1896 the Populist Party indorsed Bryan and the Alliance finally spent itself in that campaign.

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[6] Hibbard, *Marketing Agricultural Products,* Ch. XIX.

The American Society of Equity. The American Society of Equity was organized in 1902, its primary purpose being to control the marketing of the farmers' products, giving chief attention to granaries, warehouses, elevators, financing the holding of crops, and cooperative marketing.[7] Its chief operations are in Wisconsin, Minnesota, North Dakota, and Montana. The Society aspired chiefly to be inspirational, carrying on at first a passionate campaign urging farmers to hold their wheat and set their own price. The Society also promoted the establishment of cooperative elevators. It attempted to establish a grain exchange at St. Paul. Its most notable work was in Kentucky. In that state 40,000 farmers attempted to raise the price of Burley tobacco, pooled tobacco in warehouses, reduced the amount raised, and won some signal victories in conflict with the tobacco companies. In 1907 the Society was reorganized. The Society has never had a large membership. It still works for legislation favorable to farmers.

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[7] *Ibid.,* Ch. XX.

The Farmers' Union. The Farmers' Educational and Cooperative Union originated in Texas about 1902.[8] It has a long list of objectives: (1) better marketing; (2) better prices; (3) better farm credit; (4) rural education; (5) cooperative buying and selling; (6) limitation of agricultural output; (7) regulation of boards of trade and cotton exchanges and curtailment of speculation in farm products. At its height the Union reached a membership of between 500,000 and 800,000, the greater number of whom were in the cotton belt, with a considerable number in Nebraska, Kansas and the Northwest. Its first major activity was an attempt to control the price of cotton in the South by urging farmers not to sell under a minimum price set by the organization. The movement seemed to succeed the first year when the cotton crop was short, the price going to thirteen cents a pound when the price was set at eleven cents, but it failed the next year when the price was set at fifteen cents. A big crop was grown and practically all cotton was sold at ten cents to twelve cents. Next the Union attempted to control the price by limiting output. Some acreage reduction was made in 1905 and the price rose 25 per cent. But this attempt soon failed because farmers all began to plant more cotton. Next the Union turned to warehousing and credit problems with some fair results. It was active in securing better credit for farmers through state and national governments. It has always been active and quite successful in state politics. The Union has a successful grain exchange at Omaha, Nebraska, and successful co-operative stores and a big exchange in Des Moines.

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[8] Hibbard, *Marketing Agricultural Products,* Ch. XXI.

The Non-Partisan League. In the Northwest there has grown up a sharp class-conscious movement among farmers known as the Non-Partisan League,[9] which seems to be in opposition to organized business, the grain exchanges, the packers, the banks, and the railroads. The League has its greatest strength in North Dakota, Minnesota, Montana, South Dakota, Nebraska, and Kansas. It began in North Dakota. It has followed in the wake of bad crops and where the Grange and the Alliance operated. It is distinctly a political movement, centering attention on governmental affairs and their bearing on the farmer's interest. The League seeks to get control of government and to effect its reforms through governmental agencies. It has combined with labor to accomplish its ends. It is a grouping of voters without respect to party affiliation, using one of the old parties for its purpose, endorsing whichever party it deems best suited to that purpose. The League succeeded in capturing state government in North Dakota and in electing some officers in other states. In North Dakota the League first centered its attention on credit and banks. Many farmers believed that interest rates were far too high. The main proposals of the League are: (1) State ownership of elevators, flour mills, packing houses, and storage plants; (2) state inspection of grain and state regulation of dockage; (3) exemption of farm improvements from taxation; (4) state hail insurance; (5) rural credit banks operated by the state and at state cost. State ownership of important middleman institutions is the major plank in the Non-Partisan League's program.

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[9] *Ibid.,* Ch. XXII.

The Farm Bloc. After the agricultural depression in 1921 there arose in the national Congress at Washington a group of Senators and Representatives from the agricultural states that became known as the Farm Bloc.[10] The group was composed of about an equal number of representatives from the two major political parties. The occasion for the formation of this bloc was the depressed state of agriculture. The object of the Bloc was to press for legislation in Congress favorable to agriculture. The Farm Bloc became the most assertive and aggressive group in Congress from 1921-1925. It kept before Congress and the public the extremely depressed condition of agriculture. It worked for various kinds of legislation thought to be favorable to farm interests. It was instrumental in getting through Congress a large number of bills, including amendments to the Farm Loan Act increasing the capital of the Farm Loan Banks and raising the maximum amount loanable to a farmer from $10,000 to $25,000; acts regulating future trading and the packers; a national cooperative marketing bill; agricultural representation on the Federal Reserve Board; the Purnell Bill granting additional funds for research in agricultural colleges; intermediate credit, providing funds to finance the marketing of crops; and revision of the tariff. The Bloc is not permanent, but it shows that we may expect such bipartisan blocs in the future when the economic conditions of the farmer demand it.

The Farm Bureau Federation. While the American Farm Bureau Federation has been less political in its activities than most of the other farmer movements, it has been typically a farmer movement.[11] The Bureau grew out of organizations formed to support the work of county agents during the World War. First, there were county units with community sub-units. It was natural, particularly after the depression of 1920-1921, that these county units should be federated into state bureaus, and that finally there should emerge a National Farm Bureau heading up and directing the state and county units. The Bureau had a rapid growth in membership for a few years, reaching several millions, but has since dropped down to a few hundred thousand. The program of the Bureau has been very comprehensive, including many projects for legislation, educational and economic improvement. The economic program of the Bureau has had five main objectives: (1) extension of cooperative marketing; (2) limitation of profits and reduction of costs in all lines not handled cooperatively; (3) regulation of flow of farm products to market by estimation of effective supply; (4) establishment of new foreign markets for surplus American farm products; and (5) provision of cheaper sources of fertilizer. The Bureau has maintained a strong legislative lobby at Washington which has sought the enactment of legislation pertaining to cooperative marketing, agricultural representation on important boards, tariffs favorable to farmers, currency, banking, highways, foreign markets, peaceful settlement of capital and labor problems; regulation of monopolies and other big business interests. Its educational objectives have been the creation of better understanding of agricultural problems in the public mind, the encouragement of home food production, better homes, better health, better social life, and the determination of farmer sentiment by referenda.

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[10] Capper, *The Agricultural Bloc.*

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[11] Hibbard, *Marketing Agricultural Products*, Ch. XXXIII.

Summary of Economic Gains. It is difficult to evaluate the economic effects of the many farmer movements that have sprung up in the United States. They have had only a limited success in achieving their economic objectives. Many of them have advocated impracticable programs that farmers have followed with the sincerest intentions and strong convictions of their economic justice. Many projects undertaken have failed. But unquestionably there have been many gains, not all of them directly of an economic nature, but gains nevertheless, that have reacted favorably on the economic welfare of the farmer. Among these gains we may list: (1) better appreciation of the farmers' economic relation to other classes; (2) many successful cooperative projects in buying and selling; (3) many acts of legislation favorable to rural interests, as appropriations for agricultural education, establishment of agricultural schools and research, regulation of railroads and other industries, grading and warehousing acts, tariff changes, agricultural credit, market bureaus and departments; (4) and finally the distinct educational and social value of bringing farmers together in cooperative relationships, challenging them to study their own industry and its problems, awakening a keener interest in public affairs, all of which in the long run react favorably upon the economic status and well-being of the farmer.

C. The Farmer in Politics

Increasing Interest in Politics. Well may we raise the question at this point, Will farmers take an increasing interest in politics? Our answer is, Yes. With the rising level of intelligence due to better schools, wider reading, and greater appreciation of civic obligations, and particularly a better appreciation of the economics of their relations to other classes, we believe it inevitable that farmers will become more politically minded. As society becomes more complex, and new economic and occupational groupings develop, with sharper clashes of economic interests, there will be greater attention given to politics as a means of attaining economic ends. As cooperative organizations, and other types of farm associations develop, they will surely stimulate in farmers a sharper consciousness of their economic interests and political relationships. All these forces will make for a greater political consciousness on the part of the farming class.

Farmer Representation in Government. Perhaps less than any other class have farmers themselves participated in official activities of government. They have a smaller proportion of their class in offices than any other occupational group. True, farmers have elected many men to office from other classes who have actually or professedly represented their interests and acted as their spokesmen. But there are relatively few men in public office, especially in the national government, who are actually farmers. No farmer has ever served as President, aside from George Washington, and yet farmers have been the most numerous of all our occupational groups. There have been few members of Congress or members of the cabinet who were actually dirt farmers. In state and county offices farmers have had larger representation. In state legislatures farmers have a representation ranging from 5 to 35 per cent.[12] There is no peculiar legislative virtue in a man simply because he has been born on a farm or because he lives on a farm and manages a farm. But a study of history shows that those classes whose economic and social interests were properly recognized had their own spokesmen in law-making bodies, who, because they were of the class they represented, knew and appreciated the problems of their class. Classes and occupational groups command the respect of other classes and groups just to the extent that they have wide-awake, capable leaders to speak for them and protect their rights. The British Labor Party of today is a good example. This party represents the great army of labor in Great Britain. The labor members of Parliament are men who have worked with their hands and understand the problems of their class. The fact that they have come to power has been an incentive for them to study the economic, political and sociological problems of their country. Just as the old English Whig Party was made up of country squires, so the new labor party is made up of workers. The farmer will have his interests better protected and his occupation respected just to the extent that he furnishes his own spokesmen, his own lawmakers, his own officials, from his own class.

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[12] Taylor, *Rural Sociology*, pp. 453-455.

Farmers and Public Policies. There continually arise in state and national legislatures questions of public policy that are of great concern to farmers. Often these questions seem not to have any immediate or direct influence on the economic condition or status of farmers. Indeed, our society has become so complex and our legislative processes so intricate, that it is extremely difficult for the average man to keep himself sufficiently informed on public questions to know how to vote intelligently. A large number of questions, like regulation and control of public service corporations and large private corporations, the conservation and development of water power, the construction of local, state, and national highways, the extension of secondary and collegiate education, the consolidation and administration of rural and town schools, reform of federal and state taxation systems, promotion of public health, further use of agricultural advisors and subsidies to different industries, the reclamation of land, the establishment of land settlements, the restriction of immigration, tariff revision, must all be discussed and voted on in state and national legislatures. Farmers have an economic interest in every one of these problems. Yet few farmers understand just how they are affected by the different policies that might be pursued with respect to any one of these problems. Only by organization and expert advice can farmers keep themselves informed as to the bearing of all such policies on their welfare.

State Promotion of Agriculture. More and more, agriculture is becoming a cooperative rather than an individualistic process. It is becoming a joint activity of many individuals. Specialization, dependence on other classes, use of technical skill and advice, regulations of marketing and grading, discovery of new methods, scientific research, control of pests, establishment of schools adapted to rural needs, services of county agricultural and home demonstration agents are all social processes of the greatest importance to the farmer. An increasing number of these cooperative activities are conducted under the leadership of state agencies. The national government, the state, the county, the township, and the small local community as a political unit are all important agencies for promoting economic activities. When young men are preparing themselves for leadership in agriculture, they should prepare for civic leadership as well as technical leadership. The problems of agriculture are corporate and public, as well as individualistic and private.

Agricultural Education. Inevitably the school will become the most powerful agency in promoting the new scientific agriculture. Agricultural education calls for the highest statesmanship. Education is the biggest business of the state. Agricultural education promises to loom large in national, state and local legislation in the future. How much shall be spent for education, what kinds of schools rural folks shall have, how large state appropriations for higher agricultural education and research shall be, how much shall be spent for educating the farmer and his family on the farm through agricultural extension—these are fundamental questions that will be emphasized in the future. The rural folk themselves will do well to furnish some of their own statesmen to help solve these important educational problems.

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CHAPTER XX

FARM WEALTH AND INCOME

A. WEALTH AND INCOME OF FARMERS OF THE UNITED STATES

Relation of Farm Wealth and Income to Rural Welfare. The measure for the agriculture of any nation is the standard of living it affords for those engaged in it, and the wealth basis it supplies for rural community welfare. The standard of living of the farm population is determined primarily by the annual income it receives and the wealth it is able to accumulate. The comforts, conveniences, health, education, recreation and the future security of the farm family depend largely on the net farm income, and the savings that the family is able to make. Wealth and income are also the surest basis for rural social welfare, using welfare in its truest sense. Schools, churches, roads, public health, agricultural extension services, farmers' recreation centers, and other community improvements are limited by the economic resources of the farming population.

Farm Wealth in the United States. We have only estimates of what the farm wealth of the United States is. Dr. L. C. Gray, one of our leading agricultural economists, estimated the total wealth of the farming population to be about $62,522,000,000 in 1920.[1] Another writer estimated our total national wealth to be $290,909,000,000 in 1920.[2] Using these two estimates, and subtracting the former from the latter to get the total non-agricultural wealth, and dividing farm wealth by the total farm population and the remaining wealth by the non-agricultural population, we get a per capita wealth of $1,978 for the farm population and $3,060 for the non-agricultural population.

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[1] *American Economic Review,* Vol. XIII, Supplement, March, 1923, p. 169.

Distribution of Wealth Among Farmers. There are wide variations among different classes of the farm population in the amount of wealth per family. One writer has estimated the net wealth per farmer for the different classes of farmers in 1920 to be as follows:[3] full owners, $13,476; part owners, $12,829; tenants, $4,315; croppers, $354; farm laborers, $350. However, averages for the whole United States do not give a true picture of the wealth status of these different classes in different sections of the country, because there are such wide variations in the several geographical divisions. For instance, the average value of all farm property per farm for all farms in the United States according to the Census of 1920 was $12,084, but the average value per farm for the nine geographical divisions from the highest to the lowest was as follows: West North Central states, $25,517; Pacific states, $22,664; Mountain states, $16,727; East North Central states, $15,898; Middle Atlantic states, $9,290; West South Central states, $7,652; New England states, $7,492; South Atlantic states, $5,292; East South Central states, $4,203. According to these figures we see that the average value of all farm property per farm was six times as great for the West North Central states as for the East South Central states. The average wealth of farm tenants in the Middle West and the Far West exceeds the average wealth of owners in the South. We know that a large number of farm owners in the South have only a small amount of wealth, and that many tenants and croppers have a mere pittance of wealth. On the other hand farm management surveys show many tenants in the Middle West and the Farm West to have farm property in excess of $10,000.

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[2] Ingalls, *Wealth and Income of the American People.*

[3] Gray, "Accumulation of Wealth by Farmers," *American Economic Review,* Vol. XIII, Supplement, March, 1923, pp. 169-171.

Farmers' Share in the National Income. A special committee of the Association of Land Grant Colleges and Universities, in their report *The Agricultural Situation* in 1927 gave the following facts on the farmers' share in the national income:[4] The total income of the people of the United States ranged from $28,000,000,000 to $32,000,000,000 from 1910 to 1915, rose to $56,000,000,000 in 1918, to $67,000,000,000 in 1919, and to $74,000,000,000 in 1920; then declined to $62,000,000,000 in 1921, but rose to nearly $86,000,000,000 in 1925. The net income to agriculture was $6,000,000,000 to $7,000,000,000 between 1910 and 1915, rose to more than $13,000,000,000 in 1918 and 1919, declined to less than $7,000,000,000 in 1921 and 1922, and rose to nearly $9,000,000,000 in 1925. From these figures it is seen that from 1910 to 1919 agriculture received not less than 20 per cent of the total national income whereas from 1920 to 1925 agriculture received only a little more than 10 per cent of the national income.

Range of Incomes Received by Farmers. Of course there is a wide range in the size of incomes received by different classes of farmers in the United States. On the basis of actual incomes received by a sample of about 1,300 farmers in 1920, Dr. L. C. Gray has compiled the following figures, estimating the percentage of farmers in the United States receiving different classes of incomes.[5]

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[4] P. 6.

Income Range	*Per Cent of Farmers*	*Number of Farmers*	*Average Income*
Negative income	4.55	293,000	Loss
0–$500	12.53	808,000	$177
$500–$1,000	21.89	1,412,000	396
$1,000–$1,500	17.01	1,097,000	635
$1,500–$2,000	14.69	947,000	933
$2,000–$3,000	13.31	858,000	1,283
$3,000–$4,000	7.66	494,000	1,813
$4,000–$5,000	3.25	210,000	2,369
$5,000–$7,500	3.17	24,000	3,150
$7,500–$10,000	0.93	6,000	4,560
$10,000 and over	1.01	6,500	8,132

B. INCREASING FARM WEALTH AND INCOME

The Magnitude of the Problem. It is almost presumptuous for any one person to suggest how the six million farmers of the United States as a group or as individuals can increase their wealth and income. Throughout this book we have tried to point out how farmers, in many different ways, can get the most for their economic activities. There is no *one* way by which farmers can increase their material prosperity and share more affluently in the national income. What is now called *the* farm problem is really a number of problems. In bringing this book to a close we shall by way of review point out some of the outstanding things that can be done to improve the economic status of the farming population. We wish to give proper recognition to suggestions made by others in this connection, particularly to the report of the Land Grant Colleges and Universities, *The Agricultural Situation,* made in the fall of 1927 and to a book entitled *The Condition of Agriculture in the United States and Measures for Its Improvement,* prepared by the Business Men's Commission on Agriculture and published jointly by the National Industrial Conference Board, Inc., and the Chamber of Commerce of the United States.

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[5] *American Economic Review,* Vol. XIII, Supplement, March, 1923, p. 177.

More Effective Control of Production. Farmers' economic prosperity depends on the price they receive for the products they sell. Prices are determined largely by the supply of the products marketed. As has been shown, large crops often bring producers less than much smaller crops. Especially does this situation hold for crops that are domestically consumed, and for export crops of which the farmers of the United States produce the major part, such as cotton. What is needed most in case of these crops is a more effective control of the supply produced. Where there are millions of individual farmers producing a commodity blindly, without reference to the effective demand for the commodity, and without reference to the amount of the commodity other farmers are producing, overproduction and low prices are likely to be the result. The remedy seems to lie in a more articulated production on the part of farmers. The producers of the different commodities need to have a better understanding of the demand for their commodities and the relation between supply and price. They also need information about the intentions of other producers to produce and the probable supply and price. The United States Department of Agriculture, the state departments of agriculture, and the colleges of agriculture, through their crop-reporting services and their announcements of trends of production and prices, are beginning to supply farmers with very valuable data that will assist them in a more effective control of their production. Cooperative marketing organizations are also beginning to furnish their members reliable information on production trends and probable prices and to educate them to the importance of balanced production.

Economical Land Utilization. Closely related to the control of production, and in fact an essential feature of it, is a more carefully planned land utilization policy. One of the reasons why farmers in the United States have received low incomes and have accumulated little wealth has been the too rapid utilization of our land supply. Unbalanced production has been the result. Millions of individual farmers working alone, carving out new farms and increasing the cultivable acreage on their farms, have produced more commodities than could be sold at profitable prices. There are still many millions of acres of land in the United States that can be brought into farms, particularly swamp, irrigable, and cut-over lands. The economic aspects of future land utilization need careful attention. Farmers and local communities need to be educated to the relation between agricultural expansion and farm prices. The national and state departments of agriculture, the agricultural colleges, and farm organizations can render valuable assistance to the farming class and the public generally by stressing the need for careful economic consideration of all land reclamation projects. Definite, articulated national and state land policies should help a great deal in bringing about more economical land utilization.

Reduction of Costs of Production. As was pointed out in the chapters on Social Capital and Farm Management great economies can be effected on many farms by the use of efficient equipment and by more scientific management. In every rural community in the United States there are at least a few farmers who are making good incomes and who have been able to accumulate a fair amount of wealth. These farmers have succeeded under the same conditions that other farmers have found difficult. The secret of successful management is low cost of production. Farm management is both a science and an art. Cost of production studies show great variations among farmers. If the great majority of farmers could cut their production costs to approximately the costs of the 25 per cent of farmers with the lowest costs, the farming class would make a tremendous economic gain. Perhaps the farmers of the United States as a whole stand to gain more by cutting costs of production than by any other means at the present time.

Organized Cooperative Efforts. Cooperative selling and buying have been many times advocated as the surest remedy for the economic ills of the farmer. Cooperation has had a rapid growth among farmers during the last fifteen years. The producers of many commodities are receiving good prices for them through cooperative associations. Cooperative marketing and buying can be much more widely extended. The value of farm products sold and of supplies purchased cooperatively is still a small percentage of the total value of all products sold and supplies purchased. Through large cooperative marketing organizations, the producers of many commodities may be able to develop markets for them in foreign countries. Farmers can also further advance their economic interests through associations and organizations that promote scientific agriculture and give them effective representation in legislation and public policies.

Equalize the Effects of Protective Policies. The United States as a nation seems to become more and more committed to a policy of tariff protection. As shown in the chapter on The Tariff and Agriculture the farming class as a whole in the United States under present conditions loses more than it gains by a protective tariff. The producers of only a few farm commodities profit by tariffs. Yet farmers are constantly being urged to have their representatives in Congress vote for tariffs on non-agricultural products in exchange for tariffs on farm products, the prices of which cannot possibly be affected by tariffs, so long as we do not import those products. Farmers only lose by having their representatives engage in such log-rolling tactics in tariff legislation. If protection is to be our national economic policy, then surely farmers are just as much entitled to tariff protection on commodities that can really be protected as any other class. But before farmers give their support to general tariff measures they should study all the schedules carefully and estimate the real economic advantages and disadvantages of the measures proposed.

Equitable Distribution of Tax Burdens. The proportion of the national income required for the support of government and governmental functions has gradually increased. All classes of people, including farmers, demand more and better public institutions and services. The people of the United States will no doubt spend more of their incomes through taxation for public services in the future. The big problem for farmers in this connection is to see to it that they do not pay more than their part for governmental services and that they share equitably in them.

Education. In a very stimulating magazine article, Dr. Carver, a distinguished agricultural economist of Harvard University, has suggested good rural schools as the most effective means of helping the farmers of the United States improve their economic and social status.[6] Enlightenment has always been the means by which any large group of people have increased their general welfare. It is through education that all the other means of increasing the farmers' wealth and income already discussed can be made most effective. The next big step in rural education is to provide a system of schools that will afford every farm boy and girl at least a high school education, and opportunities to become trained in the scientific, economic and social aspects of agriculture and in the science and art of home-making on the farm, to the extent that these opportunities are desired by farm boys and girls. Good rural high schools can also be made effective centers for adult education in scientific agriculture and in the economic, social, and political aspects of agriculture.

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